

HEALTH PROMOTION IN INSTRUMENTAL AND VOCAL MUSIC LESSONS

THE TEACHER'S PERSPECTIVE

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Abstract

This thesis addresses health promotion in the context of instrumental and vocal music lessons from the perspectives of UK teachers. Instrumental/vocal teachers have been identified as potential allies in the prevention of performance-related problems (PRPs) because they are key stakeholders in music education and are in a position to influence primary and secondary prevention of PRPs. However, very little research had investigated these stakeholders' personal characteristics or their health-related beliefs or behaviours. Therefore, a survey study was designed to investigate the demographic characteristics, educational pathways, and performance-related health of a large group of teachers ($N=496$), and to explore their health-related beliefs and behaviours. An interview study was conducted to follow up survey findings and explore health promotion in more detail with a smaller sample of teachers ($N=12$). Results indicate that teachers' engagement with health promotion is influenced by their personal characteristics – in particular their sex, teaching instrument, and experience of PRPs – and that many teachers already address health promotion by listening to pupils, providing advice, and reporting or referring pupils when necessary. These behaviours were influenced by various factors including, in many cases, teachers' fundamental belief that they bear at least partial responsibility for pupils' health and well-being. This perceived responsibility was shared with pupils, their families and institutions, and healthcare professionals; interactions between these stakeholders were explored. Two intervention studies were conducted to investigate teachers' practical engagement with health-related resources; these studies centred on evaluation of health-related books ($N=33$) and the provision of an event for teachers and other relevant stakeholders ($N=44$). Teachers' participation in these studies demonstrates that there is interest in health promotion among UK teachers and the findings provide information that can be used to improve the content and delivery of resources. The results of all four studies indicate that UK teachers are appropriately placed to act as health promotion advocates, in most cases are already doing so, and to a large extent are interested in learning more about health promotion. The conclusion of the thesis outlines five main implications of this research and identifies directions for future research.

Publications and Presentations

The publications and presentations listed below are based on material from this thesis.

Peer-reviewed publications

The contents of the following peer-reviewed publications can be seen in the supplementary material section (pages 414-424).

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List of Abbreviations

Associate of Trinity College London (ATCL)	National Institute for Occupational Safety and Health (NIOSH)
Associated Board of the Royal Schools of Music (ABRSM)	Noise-induced hearing loss (NIHL)
Association of Medical Advisers to British Orchestras (AMABO)	Performance Diploma of the ABRSM (DipABRSM)
British Association for Performing Arts Medicine (BAPAM)	Performance Licentiate of the Royal Schools of Music (LRSM)
British Voice Association (BVA)	Performance-related musculoskeletal disorders (PRMDs)
Contemporary and alternative medicine (CAM)	Performance-related problems (PRPs)
Continuing professional development (CPD)	Performing arts medicine (PAM)
Ears, nose, and throat (ENT)	Performing Arts Medicine Association (PAMA)
European Piano Teachers Association (EPTA)	Piano-related injury (PiRI)
European String Teachers Association (ESTA)	Playing-related injury (PRI)
Evaluation study participants (ESPs)	Postgraduate (PG)
Event respondents (ERs)	Postgraduate Certificate in Education (PGCE)
General practitioner (GP)	Prefer not to disclose (PND)
Healthcare professionals (HCPs)	Qualifications Credit Framework (QCF)
Incorporated Society of Musicians (ISM)	Qualified teacher status (QTS)
Initial teacher education (ITE)	Regulated Qualifications Framework (RQF)
Initial teacher training (ITT)	Research questions (RQs)
International Society for Music Education (ISME)	Respondent (R)
International Society for the Study of Tension in Performance (ISSTIP)	Royal Northern College of Music (RNCM)
Licentiate of Trinity College London (LTCL)	Safety and Health in Arts Production and Entertainment (SHAPE)
Manchester Metropolitan University (MMU)	Society for Education, Music and Psychology Research (SEMPRE)
Musculoskeletal disorders (MSDs)	World Health Organisation (WHO)
Music performance anxiety (MPA)	United Kingdom (UK)
Music Teachers' National Association (MTNA)	United States of America (USA)
Musicians' Union (MU)	Vocal problems (VPs)

Chapter 1: Introduction

The term ‘musician’ has been defined as “a person who practises in the profession of music within one or more specialist fields” (Bennett, 2008, p.101), for example: education, performance, composition, technology, production, community music, and therapy. The process of learning to be a musician has intrinsic value and secondary benefits known as ‘transfer effects’ (North & Hargreaves, 2008), as recognised by the underlying assumptions of a recent review of music education in England:

Government priorities recognise music as an enriching and valuable academic subject with important areas of knowledge that need be learnt, including how to play an instrument and sing.

Secondary benefits of a quality music education are those of increased self-esteem and aspirations; improved behaviour and social skills; and improved academic attainment in areas such as numeracy, literacy and language. There is evidence that music and cultural activity can further not only the education and cultural agendas but also the aspirations for the Big Society. (Henley, 2011, pp. 4-5)

Research suggests that participation in music can positively influence performance in a range of cognitive and physical activities (see MacDonald, Kreutz, & Mitchell, 2012, for a summary of research). Furthermore, community music programmes can promote social well-being and healthy behaviours (Murray & Lamont, 2012; Faulkner & Davidson, 2006). Personal behaviours, attitudes, emotions and social lives can be influenced through engagement with music (Gabrielsson, 2011; Juslin & Sloboda, 2010; Rentfrow & Gosling, 2006). Music can be used for emotional purposes (e.g. to regulate or enhance mood), cognitive purposes (e.g. to enjoy the music and analyse it for itself), or to enhance, distract from, or tolerate other daily activities (Chamorro-Premuzic & Furnham, 2007; Lonsdale & North, 2011; Hallam, 2012). Research suggests that humans are aware of the emotional effects of music and are able to employ this effect consciously (Lundqvist et al., 2009; Västfjäll, Juslin, & Hartig, 2012). Music has been used for therapeutic purposes throughout human history (Carroll, 2011; Rorke, 2001; Wigram, Saperston, & West, 1995) and can be utilised in clinical settings to reduce pain, anxiety, stress, drug usage, and length of hospitalization; enhance participation in exercise and physiological responses; improve sleep quality; counsel patients and relatives; and promote positive interpersonal interactions (see Trondalen & Bonde, 2012, for a summary of research). Music has been shown to be an effective therapy for various client groups (e.g. those with cancer, Alzheimer’s disease, or special educational needs) and communities (e.g. schools,

families, or prisons).¹ Musicians' activities in these environments enhance clinical outcomes, wellbeing, empowerment, and life satisfaction (Daykin, 2012).

Participation in amateur musical activities can positively influence health and well-being; however, there must be a balance between "health as a resource for making music and making music as a resource for health" (Gembris, 2012, p. 371). Working within the highly competitive music business can endanger a musician's well-being if appropriate support and education are not available. And yet, we cannot all be amateurs; professional musicians are needed to support the uses of music outlined above. Musicians must be able, and willing, to care for their health to maintain a successful career (Johansson & Theorell, 2003). Exploration of music, health and well-being is a relatively young discipline within music psychology but there is an increasing amount of research and support for these efforts (see MacDonald et al., 2012, for examples of research and initiatives). A treatise written by Bernardino Ramazzini in 1713 entitled 'Diseases of Tradesmen' is generally acknowledged as the first reference to musicians' occupational health (Harman, 1993); however, the discipline of performing arts medicine (PAM) only began to develop more formally towards the end of the 20th century (see Chong et al., 1989 and Otswald et al., 1994, for reviews). PAM now involves a wide range of professionals and performing arts disciplines with a number of international organisations and publications dedicated to the subject. Research and the practical experiences of those in the PAM field have contributed to increased understanding of the types of problems that musicians can face, what might cause them, how prevalent they are, and how they can be managed or treated.

Many of the problems that musicians face are preventable and therefore, ultimately, "prevention is the primary aim of performing arts medicine" (Butler, 2005, p.146). Researchers and specialists in PAM have only recently begun to approach the prevention of performance-related problems (PRPs) in a systematic manner. Three main questions will need to be addressed to develop effective health promotion initiatives: i) what will prevention of PRPs involve?, ii) when will it take place?, and iii) who will be involved? This thesis will consider these questions from the perspective of one group of potential health promotion advocates: instrumental and vocal music teachers. These musicians have been repeatedly nominated as "allies of prevention" (Spaulding, 1988, p.135) by PAM researchers and specialists and yet, to date, there is a lack of research exploring health

¹ See the third edition of the Nordoff Robbins Evidence Bank (2014) for more details.

promotion in instrumental/vocal lessons. Therefore, this thesis aims to investigate teachers' perspectives on health promotion for musicians in the context of instrumental and vocal teaching by exploring teachers' beliefs about the importance of health promotion, and their current and potential health-promoting behaviours.

This thesis focuses on the health of musicians: i.e. the effects of learning an instrument (including voice) on pupils' well-being and health with particular attention to the role that teachers play in preventing or dealing with problems. A long-term aim of this research is to contribute to the prevention of PRPs thereby promoting the health of a population: i.e. musicians. Therefore, this research has similarities with research that focuses on 'music for health': i.e. research that explores the potential to enhance the health, well-being, and/or cognitive functioning of a population through musical engagement (as per the research outlined in the first two paragraphs of this chapter). Although it was not the focus of this research, the concept of health promotion via musical engagement – and instrumental and vocal teachers' roles in this process – is referred to where such themes were identified in participants' responses within the context of instrumental or vocal lessons. It is hoped that over time a shift towards actively promoting health through music lessons may be effected; at that time the aims of research investigating the potential of music for promoting health and that of research investigating musicians' health may be more closely aligned.

The following four research questions are addressed in this thesis:

1. What were the characteristics of those delivering instrumental and vocal teaching in the UK in terms of their demographic characteristics, educational pathways, and performance-related health?
2. To what extent did teachers report promoting their pupils' health? How did they report doing so?
3. What influenced teachers' health-promoting behaviours?
4. To what extent would teachers like to access health-related information so as to promote their own and their pupils' health more effectively? What would they like to learn and how?

The rationale for these research questions is explored in detail throughout the literature review in Chapter 2 and summarised in Section 2.2; as will become clear, these questions had not previously been the focus of research in a UK context.

The amount of data generated during this project, particularly by the survey study relating to the first three research questions, exceeded my expectations. I have chosen to explore the complexities of these data in detail, which has meant focusing to a lesser

extent on data from the intervention studies relating to the final research question. I made this decision as I believe that thorough exploration of survey data relating to the first three research questions provides information that can inform research in a number of areas: for example, further exploration of teachers' life histories, their experiences of PRPs, their current health-related behaviours, and their motivation for engaging in health-promoting activities. In comparison, intervention study data relating to the fourth research question provides information that is valuable, but rooted in responses to the first three research questions and of a more limited scope of immediate application. My future research in this field will certainly focus on further exploration of topics relating to the fourth research question but, for now, my focus is on creating a strong foundation that is informed by deeper understanding of the current situation.

1.1 The thesis and me

I have witnessed first-hand the positive effects that participation in musical activities can have on well-being and health. I started to learn the violin when I was four years old and have played in various ensembles since then. Through my performing activities I learned a variety of skills, gathered valuable experiences, and made life-long friends. I began to teach the violin and piano four years ago and through my teaching activities I have seen the effect that participation in music has on my pupils in terms of their skills, experiences, and social lives. As a musician I have witnessed the therapeutic benefits that listening to, and taking part in, music can have for different people. Since my introduction to the discipline of music psychology I have read about research that investigates and details the positive effects of music on well-being and health, and conducted research of my own. Music has been a part of my life and identity for as long as I can remember. There is a wealth of research detailing the positive effects of music on well-being and health (introduced briefly above) and my personal experiences have, for the most part, aligned with the results of that research.

Unfortunately, music can also have a negative effect on musicians' health and well-being and in addition to my knowledge of PAM research I have personal experience of PRPs. During my later teenage years I experienced chronic back, shoulder and neck pain that hindered my ability to practise and play the violin. In 2009 I was diagnosed with joint hypermobility syndrome (JHS): JHS is a multi-system musculoskeletal disorder that affects the joints and soft tissue of the body (Bird, 2007). From the onset of my health problems I chose to be open about the difficulties that I was experiencing and as a result many peers

and colleagues have spoken to me about their own problems. In 2011 I developed the informal peer-support network that had grown out of my personal experiences into a health promotion initiative in association with the British Association for Performing Arts Medicine (BAPAM, see www.bapam.org.uk/sas). My involvement with this network made me aware of the influence that musicians have on colleagues' health and well-being, and the powerful role that musicians can play as advocates for health promotion. For my undergraduate dissertation I researched the effect of hypermobility (and associated symptoms) on musicians. During my master's degree I conducted two further research projects: one to investigate the health of tertiary-level university students and their engagement with health promotion, and the other to investigate the role of instrumental/vocal teachers as potential health promotion advocates. These dissertations introduced me to the field of PAM, and my personal and professional experiences convinced me that there is a need for research which focuses on health promotion from the perspective of those who are central to the issues – i.e. musicians, of all shapes and sizes.

My personal journey has involved both positive and negative effects associated with learning musical instruments and those experiences have inspired and guided my professional engagement with research, music teaching, and health promotion initiatives. Acknowledging my own life history and resulting involvement in this research is imperative and is explored in more detail in Section 2.3.3. My personal and professional experiences indicate that to reduce the prevalence of performance-related problems, and ultimately improve the health of musical populations, all those involved in nurturing musicians will need to work inter-professionally to create cultures of health promotion that are supported by appropriate resources. It is my hope that the research reported in this thesis will support future collaborations and be of value to musicians (including performers, teachers, composers, etc.), those who teach musicians (including teachers of various kinds, educational institutions, and teacher educators), parents, and performing arts medicine specialists of all disciplines. Suggestions regarding how this research could be built on in future are explored in Section 7.4.

1.2 Overview of thesis

The concept of health promotion for musicians and the impact that PRPs can have on musicians and the general population were introduced in this chapter. A review of literature relating to performance-related musculoskeletal disorders, vocal disabilities, hearing problems and music performance anxiety are presented in Chapter 2; this includes an overview of the aetiology, prevalence, treatment and management of each condition and consideration of how these conditions could be prevented. Research questions are introduced in Section 2.2 and the theoretical framework outlined in Section 2.3. The four research questions are addressed in separate chapters (Chapters 3-6). Each chapter begins with a presentation of relevant results from the survey, interview, and/or intervention studies, which is followed by a discussion of results in relation to previous literature, and subsequently drawn together with a conclusion that summarises the main points and answers the research question addressed by the chapter. Study methods are introduced immediately before the first presentation of related results (see Sections 3.1, 4.2, and 6.2). The final chapter includes a summary of key results, an evaluation of the strengths and limitations of the research, and recommendations for further research and future directions.

Chapter 2: Literature Review, Research Questions, and Research Framework

This chapter comprises three main sections: i) a review of literature relating to music education and PAM, ii) a summary of the rationale for the current research and the four research questions, and iii) an outline of the research framework including consideration of issues relating to methods, analysis, reflexivity, and ethics.

2.1 Literature review

2.1.1 The health and well-being of musicians

‘Health’ has been defined by the World Health Organisation (WHO, 2006) as a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity. ‘Well-being’ has been defined as optimal psychological functioning and experience and can refer to psychological affect (e.g. anxiety or depression), attitudinal responses (e.g. satisfaction or stress), and strain symptoms (e.g. exhaustion, headaches or musculoskeletal disorders; see Ryan & Deci, 2001; Griffin & Clarke, 2011; Warr, 2002). Musicians’ health and well-being can be negatively affected in a number of different ways and PRPs include performance-related musculoskeletal disorders, vocal disabilities, hearing problems, and music performance anxiety. The following sections will explore the definitions, symptoms, aetiology and prevalence of these PRPs and strategies that are currently used to treat or manage them.² This overview will provide context for the ensuing discussion regarding health promotion and the prevention of PRPs.

Performance-related musculoskeletal disorders

Musculoskeletal disorders (MSDs) are medical conditions that affect the bones, muscles, joints, ligaments, tendons, or bursa (Porter, Kaplan, & Homeier, 2003). Work-related musculoskeletal disorders are caused or aggravated by engaging in work-related activities or being exposed to risk factors within the work environment (European Agency for Safety and Health at Work, 2008). Performance-related musculoskeletal disorders³ (PRMDs) are disorders that relate to the practice and/or performance of a musical instrument. There are various categories of PRMDs including: inflammatory problems,

² The nature of some PRPs is such that it is not possible to fully ‘treat’ them, in these cases the term ‘manage’ is more appropriate as it conveys the ongoing nature of the approach.

³ The term ‘performance-related musculoskeletal disorders’ was proposed by Zaza and Farewell (1997) and used successfully in a later study by Zaza, Charles, and Muszynski (1998).

degenerative problems, joint problems, muscle-tendon strains and sprains, nerve compression or entrapment, ganglion cysts and focal dystonia (Altenmüller & Jabusch, 2010; Safety and Health in Arts Production and Entertainment (SHAPE), 2002; Sataloff, Brandfonbrener, & Lehmann, 2010; Watson, 2009). The primary symptom associated with most PRMDs is pain (Porter et al., 2003) but other symptoms – such as weakness, paralysis, lack of control, numbness, or tingling – are also associated with PRMDs (Watson, 2009; Zaza et al., 1998). Musicians who play wind and brass instruments may experience problems relating to their embouchure,⁴ teeth, or airways. For example, if a reed player's teeth are chipped, irregular or sharp they may cause tenderness and ulceration where they contact the lip (Watson, 2009). Alternatively, single-reed players' teeth can become worn from contact with the mouthpiece (Yeo et al., 2002). Velopharyngeal insufficiency (i.e. 'loss of seal'; Gilbert, 1998; Ziporyn, 1984) is a failure of the soft palate mechanism that closes the passageway from the throat to the back of the nose (see Watson, 2009); this condition is common among clarinet players because of the high pressure needed to play the instrument (Schwab & Schultz-Florey, 2004).

Researchers have investigated the prevalence of PRMDs among performing musicians worldwide. Studies with young musicians indicate that between 38% and 56% of this population have experienced performance-related pain (Britsch, 2005; Ranelli, Straker, & Smith, 2011). Approximately 48% of UK conservatoire students reported the presence of above average or severe musculoskeletal pain (Kreutz, Ginsborg, & Williamon, 2008). Between 49% and 63% of Danish symphony orchestra musicians reported physical symptoms that lasted more than 30 days (Paarup et al., 2011). Regional pain in the last 12 months was reported by 86% of British symphony orchestra musicians (Leaver, Harris, & Palmer, 2011). A survey of 552 UK musicians conducted by Help Musicians UK (formerly The Musicians' Benevolent Fund) indicates that approximately 50% of respondents had experienced a repetitive strain injury and nearly three quarters had experienced illness or another physical problem that affected their musical activities (Help Musicians UK, 2014).⁵ Amateur musicians also report physical symptoms that affect their ability to play at the level they are accustomed to (Dawson, 2001). There is next to no empirical research that investigates the prevalence of embouchure-related problems.

⁴ The term 'embouchure' relates to the "configuration of facial muscles utilized in playing a wind instrument" (Lederman, 2001, p. 53).

⁵ A copy of the survey data was made available to the researcher (Help Musicians UK, 2014) but a summary of key results can be found at http://issuu.com/helpmusiciansuk/docs/help_musicians_uk_health_and_wellbe?e=10405134/8971874

Lederman (2001) categorised the conditions reported by 81 brass instrumentalists that he had evaluated personally over 16 years and 43 had problems with embouchure; as these results were gained from musicians seeking medical help they cannot be generalised.

The development of PRMDs is thought to be influenced by occupational, environmental, biomechanical, psychosocial, and psychological factors and/or interaction between these factors (see Wu, 2007 for a review). PRMD risk factors are widely accepted by many PAM researchers and practitioners but research investigating them is not yet regarded as conclusive (see reviews by Bragge, Bialocerkowski, & McMeeken, 2006 and Wu, 2007). Given complex interactions between factors it is difficult to tell which are most influential and more research is needed. High-quality research with other work populations has provided reasonable evidence to support the involvement of awkward postures, repetitive or forceful movements, co-morbidity, gender, and psychosocial factors in the development of work-related musculoskeletal disorders (see Bernard, 1997; da Costa & Vieira, 2010; Hoogendoorn et al., 1999; 2000; Jones et al., 2009). Proposed risk factors for PRMDs can be divided into two main categories; modifiable and non-modifiable. Non-modifiable risk factors include personal characteristics such as sex, flexibility, body size, and pre-existing medical conditions. Female musicians may be more susceptible to PRMDs than males (Engquist, Ørbaek, & Jakobsson, 2004; Fjellman-Wiklund, Brulin, & Sundelin, 2003; Ranelli et al., 2011); however, this gender imbalance may be affected by female musicians being more likely to report problems than males (Abréu-Ramos & Micheo, 2007; Kaneko, Lianza, & Dawson, 2005). Despite the consideration of hypermobility⁶ as a potential asset to musical performance (Brandfonbrener, 2000; Larsson et al., 1993), hypermobility has been identified as a potential risk factor for PRMDs (Bird, 2009; Brandfonbrener, 2000; Middleditch, 2003; Quarrier, 2011). Results of a study with young musicians indicate that the existence of one musculoskeletal difficulty may become a risk factor for the development of another (Ranelli et al., 2011). Some non-modifiable factors – e.g. age,

⁶ Hypermobility is also known as hyperlaxity, joint laxity, joint elasticity or hyperextensibility. A person is only classified as hypermobile if their joints are abnormally flexible taking into account their age, sex, race and other characteristics (Grahame, 2007). Children tend to be more mobile than adults; joint flexibility decreases as neuromuscular tone increases (Malina, 1985) and collagen hardens during the development towards adulthood (Bird, 2007). Hyperlaxity has also been found to decrease through the adult years (Grahame, 1999) although some people stay very flexible well into their later years. Females are generally more flexible than males and males tend to lose some laxity in their mid-twenties, whereas females can retain flexibility well into their mid-forties (Larsson, Baum, & Mudholkar, 1987). Hypermobility is relatively common and occurs in about 10-20% of a Western population or higher in an Indian, Chinese or Middle Eastern group (Ross & Grahame, 2011).

playing experience, or growth patterns – vary throughout a musicians’ lifetime but are difficult to influence at any given time. Studies relating to age as a risk factor are generally inconclusive, particularly those that utilise a cross-sectional rather than prospective design; there may be a ‘survivor bias’ whereby those who reach a certain level of experience are those who did not cease playing because of health problems (Engquist et al., 2004; Guptill, 2012; Ranelli, Smith, & Straker, 2015; Nyman et al., 2007). Research has shown that musicians are likely to be at risk during periods of growth (Middleditch, 2003; Ranelli et al., 2011).

Modifiable risk factors include non-musical activities – e.g. participation in sports or work activities – and change or error in a range of musical factors including posture, technique, tension, practice habits, instrument ergonomics, repertoire, playing time, instrument size or group, and teacher. Postural inadequacies with and without an instrument have been identified among musicians (Blanco-Piñeiro, Díaz-Pereira, & Martínez, 2015; Ramella, Fronte, & Converti, 2014) and musicians perceive poor posture as a primary cause of PRMDs (Williamon & Thompson, 2006). Research indicates that postures that are asymmetric, static, or involve the arm being elevated above 40 degrees are more likely to result in problems (Edling & Fjellman-Wiklund, 2009; Fjellman-Wiklund et al., 2003; Leaver et al., 2011; Ramella et al., 2014; Ranelli et al., 2011). Many musicians start performing at a young age and can end up growing to fit their instrument instead of fitting the instrument to their body (Abréu-Ramos & Micheo, 2007). Musicians have nominated excessive muscle tension as one of the key risk factors associated with pain and injury (Ackermann, Driscoll, & Kenny, 2012; Shoebridge, Shields, & Webster, 2015a). Repetition or workload has also been identified as a potential risk factor (Kaufman-Cohen & Ratzon, 2011), particularly if the workload increases suddenly (Ranelli et al., 2011). However, Ranelli et al. (2011) reported that children who played three or more instruments from different families were less likely to develop symptoms; this may be a result of increased task variety, a protective factor identified in occupational health literature (Mathiassen, 2006). Supporting large and heavy instruments can lead to PRMDs (Ranelli et al., 2011; Leaver et al., 2011). A change of instrument that is made without considering a pupil’s physical attributes has been cited as one of the primary risk factors for developing a PRMD (SHAPE, 2002). Some research has returned inconclusive results relating to the potential association between PRMDs and physical activity (Fjellman-Wiklund et al., 2003; Kenny & Ackermann, 2015; Ramella et al., 2014) but good exercise

habits and enhanced neuromuscular tone are generally suggested as protective factors (Ackermann, Adams, & Marshall, 2002; Barton & Feinberg, 2008; Hildebrandt, Nübling, & Candia, 2012; Wasley et al., 2012), as are warming up and cooling down (Barton & Feinberg, 2008; Frederickson, 2002; Redmond & Tiernan, 2001). However, musicians who do include a warm-up tend to use stretching (Yoshimura et al., 2008) and researchers investigating prevention of sports injuries reported inconclusive evidence supporting the protective nature of stretching before exercise (Thacker et al., 2004).

Some risk factors – e.g. psychosocial factors, environmental aspects, and occupational stressors – are theoretically modifiable but in reality may be difficult to influence. Psychosocial risk factors (e.g. stress, depression and anxiety) have been linked to the development of MSDs in the general population (Jones et al., 2009; Kroenke et al., 2011; McFarlane, 2007) and the association between psychosocial factors and PRMDs has received increased interest (Kaufman-Cohen & Ratzon, 2011; Kenny & Ackermann, 2015; Leaver et al., 2011; Rickert, Barrett, & Ackermann, 2013; Wristen & Fountain, 2013). A musician's chosen instrument may affect the anatomical region in which a PRMD manifests (Blackie, Stone, & Tiernan, 1999; Rodríguez-Lozano, Sáez-Yuguero, & Bermejo-Fenoll, 2011; SHAPE, 2002; Yeo et al., 2002). Instrumental differences regarding regional pain were found by Leaver et al. (2011); these differences persisted after adjustment had been made for age, sex, and somatising score. Most researchers suggest that string players are most at risk of experiencing PRMDs (Kaneko et al., 2005; Nyman et al., 2007; Paarup et al., 2011; Wu, 2007) but some have reported that 'cello, double bass, saxophone and trumpet players (Ranelli et al., 2011), woodwind players (Leaver et al., 2011) or percussion and brass players (Rosset i Llobet, Cubells, & Orfila, 2000) are more at risk. Roach, Martinez, and Anderson (1994) reported that violinists were more likely to report pain but after controlling for sex the imbalance between instrumentalists was reduced. Environmental factors – such as temperature, layout of space, equipment, surfaces and lighting – can play a significant role in the development of PRMDs (Rickert et al., 2013; Rosset i Llobet & Odam, 2007; SHAPE, 2002; Williamon & Thompson, 2006).

Alleviation of PRMD symptoms often involves treatments such as painkillers, rest, application of ice, compression, elevation and splinting (Rosset i Llobet & Odam, 2007; Watson, 2009). Musicians may benefit from improving their overall physical conditioning but exercise programmes need to be designed specifically for musicians if they are to be effectively employed as PRMD treatment/management (Chan & Ackermann, 2014; de

Greef et al., 2003; Kava et al., 2010; Wilke et al., 2011). Research suggests that musicians could benefit from considering their habits, technique and posture with help from a teacher (Furth, Holm, & James, 1994; Watson, 2009; Wynn Parry, 2003). Occupational therapists could aid this consideration as their extensive training in task analysis allows them to evaluate playing environments and suggest improvements (Barton et al., 2008). Spaulding (1988) advised caution regarding over-reliance upon instrument adaptation:

Faulting instruments and furniture may lead to the innovative creation of design-aids but has limited value in assigning the musician prevention tools on which he can begin to rely...Good prevention education places primary responsibility on the individual as chief adaptor in the situation (Spaulding, 1988, p.137-138)

Spahn, Strukely, and Lehmann (2004) encourage musicians to believe in their ability to improve their health and suggest that education should be provided regarding how to achieve this. The World Confederation for Physical Therapy (2011) concluded that physiotherapists are well-suited to treating PRMDs and physiotherapy is often recommended in books for musicians (Evans & Evans, 2013; Hallam & Gaunt, 2012; Rosset i Llobet & Odam, 2007; Tomlinson, 2012). Early access to physiotherapy reduces the rate of performer incapacity and prevents the progression of PRMDs (Ackermann, 2002; Chan, Driscoll, & Ackermann, 2013; Chan & Ackermann, 2014; Milanese, 2002). Research indicates that musicians regularly consult physiotherapists for advice or treatment (Paarup et al., 2011). Myofascial trigger points⁷ may be involved in the identification and remediation of PRMDs (Davies, 2002; Rickert et al., 2012) and massage or relaxation are frequently suggested as ways to alleviate symptoms (Ackermann, Kenny, & Fortune, 2011; de Greef et al., 2003; Rosset i Llobet & Odam, 2007). Musicians often consult body awareness specialists for help with both physical and mental retraining. Research has shown that, when combined with exercise, Alexander Technique is a cost-effective and persistent option for treating chronic and recurrent back pain (Hollinghurst et al., 2008; Little et al., 2015). Musicians are often advised to take part in Yoga, Pilates, Trager or T'ai Chi in order to promote postural awareness, increase strength and/or flexibility and manage stress (Hallam & Gaunt, 2012; Tomlinson, 2012; Watson, 2009). Two respected British hand surgeons reported that most musicians will not require surgery, and that surgery should be entered into cautiously after other treatment options have been trialled or if surgery is the only appropriate option (Butler & Winspur, 2009).

⁷ A myofascial trigger point is a "hyper-irritable spot, usually within a taut band of skeletal muscle, which is painful on compression and can give rise to characteristic referred pain, motor dysfunction, and autonomic phenomena" (Lavelle, Lavell, & Smith, 2007, p. 841).

Vocal disabilities

Phyland, Oates, and Greenwood (1999) developed a definition of vocal problems that relates to the WHO (1980) *International classification of impairments, disabilities and handicaps*:

A vocal impairment is a disturbance of laryngeal functioning (dysphonia) that may be characterised by acoustic, perceptual, structural, physiological, or psychological features. The vocal disability is the resulting effect(s) of the impairment on the ability to perform activities such as speaking or singing. The handicap is the consequence of this disordered output and may hence include occupational, social and economic effects. For singers, vocal handicap may constitute inability to perform due to vocal impairment and/or disability. (Phyland et al., 1999, p. 603)

Most vocal disabilities relate to the functioning of the vocal folds: e.g. nodules, cysts, polyps, oedemas, varices, haemorrhage, and scarring (Heman-Ackah, Sataloff, & Hawkshaw, 2013; Jahn, 2009). Signs and symptoms of vocal impairment include hoarseness, breathiness, fatigue, pain, volume disturbance, tickling, choking, or a sudden change in the voice (Daugherty, Manternach, & Price, 2011; Donahue et al., 2014; Heman-Ackah et al., 2013). Laryngitis is an inflammation of the tissues of the larynx, which can be caused by infection or reflux (the flow of stomach acid up the oesophagus). If acid reaches the larynx it can cause a chemical burn in the tissue lining of the larynx that is referred to as laryngopharyngeal reflux:⁸ signs and symptoms include chronic throat clearing or coughing, tickle in the throat, difficulty swallowing, a bitter taste in the mouth, bad breath, and thirst or a dry mouth (Heman-Ackah et al., 2013).

Vocal impairments affect the general public but are reported⁹ more commonly among professional voice users such as singers (Cammarota et al., 2007; Phyland et al., 1999; Sapir, Mathers-Schmidt, & Larson, 1996). Studies with young and tertiary level vocalists suggest that 30% to 55% of the population have experienced a vocal disability (Donahue et al., 2014; Kwak et al., 2014; Tepe et al., 2002; Zimmer-Nowicka & Januszewska-Stanczyk, 2011). The prevalence of self-reported vocal disability among professional performers and teachers is estimated at between 42% and 69% (Cammarota et al., 2007; Miller & Verdolini, 1995; Phyland et al., 1999).

⁸ Note: laryngopharyngeal reflux is not the same as gastroesophageal reflux disease.

⁹ High level performance requires optimum functioning of the vocal equipment so a vocal impairment will have a greater impact on voice users compared with the general population. Professional voice users are also more likely to notice and report a vocal problem because of their awareness of phonation quality and reliance upon optimal functioning (Heman-Ackah, Dean, & Sataloff, 2002; Sapir et al., 1996).

Risk factors for vocal disorders include: talking excessively, rapidly, loudly or at a low pitch; frequent throat clearing; inadequate breath support; incorrect body alignment; overuse of pressed phonation; forcing the voice beyond its natural range; and inefficient vocal production habits (Daugherty et al., 2011; Donahue et al., 2014; Heman-Ackah et al., 2013; Watson, 2009). These behaviours can be categorised as vocal abuse (harmful behaviour) or vocal misuse (inappropriate use of the voice, potentially through deficient vocal techniques); Watson (2009) suggests that vocal misuse is sustainable for longer because the effects are less extreme, but as a result the habits become more ingrained and harder to change. Damage is caused by the force with which the vocal folds are brought together (Watson, 2009) and the behaviours listed above expose the vocalist to phono-trauma that can contribute to vocal fold pathology (Daugherty et al., 2011; Heman-Ackah et al., 2013). Other lifestyle risk factors include nutritional habits, adequate exercise and regular rest (Daugherty et al., 2011; Donahue et al., 2014; Zimmer-Nowicka & Januszewska-Stanczyk, 2011). Environmental irritants such as smoke and pollution are also risk factors (Richter et al., 2002). Sitting close together in choir rehearsals can promote over-singing and perceived vocal inefficiencies (Daugherty, 2003; Ternström, 1994). Other risk factors include: the presence of allergies (Cohn, Spiegel, & Sataloff, 1995; Zimmer-Nowicka & Januszewska-Stanczyk, 2011); hormone variation and use of particular medications or supplements that affect the voice (Heman-Ackah et al., 2013; Miller & Verdolini, 1995); high levels of stress or anxiety (Donahue et al., 2014; Heman-Ackah et al., 2013); and hearing loss (Heman-Ackah et al., 2013). Young singers' voices are prone to damage and childhood problems can negatively affect the adult voice therefore enthusiastic but untrained voice use should be avoided (Heman-Ackah et al., 2013). Age-appropriate repertoire choices are important to avoid promoting the use of vocal techniques that may damage the developing voice. As singers age they accumulate bad habits, are subjected to increased vocal demands, and abuse their voices more during recreational activities (Tepe et al., 2002). Upper respiratory tract infections are a significant cause of vocal disorders in professional voice users (Franco & Andrus, 2007; Bove, Kansal, & Rosen, 2008; Sataloff, 1997)¹⁰ and the strongest factor predisposing participants to such infections is non-adherence to vocal hygiene habits (Zimmer-Nowicka & Januszewska-Stanczyk, 2011). Individuals who have received vocal training are less

¹⁰ Breathing through the mouth while singing can increase the risk of developing upper respiratory tract infections as the air is not filtered, warmed or humidified as it would be if taken in through the nose (Heman-Ackah et al., 2013; Zimmer-Nowicka & Januszewska-Stanczyk, 2011)

likely to have to strain to reach certain frequencies (Timmermans, Vanderwegen, & De Bodt, 2005) and have noticeably better vocal habits and hygiene (Yiu & Chan, 2003; Zimmer-Nowicka & Januszewska-Stanczyk, 2011).

Three categories of treatment for vocal disabilities are identified on The Voice Foundation website (see www.voicefoundation.org): medical treatments, voice therapy and surgical treatments. Heman-Ackah et al. (2013) recommend non-surgical treatments such as voice therapy, vocal lessons, antibiotics, anti-reflux medications, antihistamines, mucolytics, steroids, sprays, and inhalants. There are times when surgery may be the only option but “all reasonable efforts should be made to avoid operative intervention” (Heman-Ackah et al., 2013, p.135). Treatment of laryngopharyngeal reflux generally involves lifestyle modification, proton pump inhibitors or medication; although surgical intervention is sometimes necessary (Sataloff, Hawkshaw, & Gupta, 2010; Sataloff et al., 2006a; 2006b). Vocalists often turn to practitioners of contemporary and alternative medicine (CAM)¹¹ to deal with health concerns (Brodsky & Hui, 2004; Petty, 2012; Surow & Lovetri, 2000) and may be reluctant to disclose their use of CAM when seeking traditional medical care; researchers suggest that healthcare professionals (HCPs) should be aware of CAM use among musicians to enable patients to use these therapies safely (Brodsky & Hui, 2004; Surow & Lovetri, 2000).

Hearing problems

Exposure to noise of excessive intensity and duration can lead to hearing loss or damage (South, 2004). The National Institute for Occupational Safety and Health (NIOSH) defines noise-induced hearing loss (NIHL) as follows:

NIHL is caused by exposure to sound levels or durations that damage the hair cells of the cochlea. Initially, the noise exposure may cause a temporary threshold shift—that is, a decrease in hearing sensitivity that typically returns to its former level within a few minutes to a few hours. Repeated exposures lead to a permanent threshold shift, which is an irreversible sensorineural hearing loss (NIOSH, 1998, p.11)

¹¹ There is some confusion as to what should be considered as CAM; Surow and Lovetri (2000) identified a few categories such as *biological/pharmacological* (including supplements, homeopathy, and herbals), *bodywork* (including massage, Alexander Technique, acupuncture, chiropractic, Yoga, kinesiology, Qigong, Reiki, and therapeutic touch), and *mind/body control* (including meditation, hypnotherapy, prayer, and visualization). Over 50% of the 142 singers in the study by Surow and Lovetri (2000) perceived aromatherapy, crystal therapy, homeopathy, acupuncture, herbs, biofeedback, high dose vitamins, massage, and chiropractic as ‘alternative’. Andrews (1997) distinguished between CAM and self-help: ‘self-help’ approaches included applied kinesiology, spontaneous positional release, behavioural barometer/goal balancing, visualisation, reframing and affirmations, Inner game, Bach flower remedies, homeopathy, reflexology, and Bates eye method.

Loud music can cause acquired hearing loss and this type of hearing disorder can be referred to as music-induced hearing loss (Morata, 2007). Exposure to noise can also lead to problems such as tinnitus, hyperacusis, distortion and diplacusis (see Laitinen & Poulsen, 2008 or Wright Reid & Holland, 2008 for descriptions of these conditions). Music is generally perceived as a pleasant sound and most people engage with music on a voluntary basis (Daniel, 2007); professional musicians' engagement with music is part of their occupation and therefore cannot be considered voluntary. Many musicians are exposed to noise levels that exceed the safe limits prescribed by current workplace noise regulations¹² (Phillips & Mace, 2008; Santucci, 2009; Schmidt et al., 2011; Wright Reid & Holland, 2008; Zhao et al., 2010).

In a recent survey of 552 UK musicians that 47% of respondents had experienced hearing issues that affected their musical activities (Help Musicians UK, 2014). Some researchers suggest that professional musicians have comparable or better hearing than other matched groups in general or amateur musician populations (Schön, Magne, & Besson, 2004; Toppila, Koskinen, & Pyykko, 2011); this has been attributed to musical training (Kraus & Chandrasekaran, 2010; Zendel & Alain, 2011) or the development of a protective sound-conditioning mechanism (Niu & Canlon, 2002). However, a recent large-scale study with over 2000 German musicians found that professional musicians are over three times as likely to have NIHL compared with the general population (Schink et al., 2014), leading the researchers to suggest that "the risk of music-induced hearing loss outweighs by far the potential benefits for hearing ability" (p.4). Tinnitus and hyperacusis are common among musicians (Laitinen & Poulsen, 2008; Toppila et al., 2011; Wright Reid & Holland, 2008) and these conditions may influence a musician's ability to work and study to a greater degree than hearing loss (Emmerich, Rudel, & Richter, 2008; Jansen et al., 2009; Kähäri, Axelsson, & Hellström, 2001).

Risk factors for hearing loss include age, noise exposure, genetic factors, infections, physical injury, psychosocial problems, dysfunction and otosclerosis¹³ (Hasson et al.,

¹² Control of Noise at Work Regulations were introduced in the UK in 2005 with a two year extension granted to the music and entertainment industry; these regulations state that if an employee's daily personal noise exposure exceeds 80 dB(A) and peak exposures exceed 135dB the employer must assess and control risks, make hearing protection available for voluntary use and provide information, instruction and training regarding the risks of noise-induced hearing loss.

¹³ "Otosclerosis is a common cause of hearing loss in young adults, which results from abnormal bone growth inside the ear. There are three tiny bones (ossicles) deep inside the ear, which move back and forth when sound waves enter. These three bones transmit sound waves to the cochlea (inner ear), which converts them into nerve signals that are sent to the brain. In otosclerosis, the stapes ('stirrup' bone) begins to fuse with the surrounding bone, eventually becoming fixed so it cannot move. Sound waves can no

2009; Schink et al., 2014; Watson, 2009). Threshold shift is a change in the quietest noise that a person can hear at a given frequency. Temporary threshold shift is a temporary loss of hearing following an overexposure to sound and permanent threshold shift is long-lasting hearing loss following extended exposure to loud sounds; if temporary threshold shift occurs frequently then it can lead to permanent threshold shift as the damaged hair cells are not able to recover (Alberti, 2001; Owens, 2008; Watson, 2009). PTS can also occur as a result of peak exposures exceeding 140 dB or extended exposure to noise above 85 dBA (Clark & Bohne, 1999; Rabinowitz, 2000). Musicians' noise exposure comes primarily from their own instrument¹⁴ (Schmidt et al., 2011; Wright Reid & Holland, 2008), but exposure to other instruments can increase the risk. Brass players may be more at risk for hearing loss because of high exposure levels whereas woodwind players may be more at risk for hyperacusis caused by "intense, shocking neighbour noise" (Wright Reid & Holland, 2008, p.12). Other risk factors include venue characteristics (e.g. wall covering, room height, echo, raked staging) and repertoire (Lee et al., 2005; MacDonald, Behar, & Wong, 2008; O'Brien, Wilson, & Bradley, 2008; Schmidt et al., 2011). Musicians take part in a range of activities including group rehearsal and performance, individual practice and performance, teaching, conducting and socialising. Exposure during performances is generally higher than during group rehearsals (Schmidt et al., 2011) but research suggests that musicians are exposed to potentially damaging noise levels during their individual practice sessions and lessons (Laitinen et al., 2003; O'Brien, Driscoll, & Ackermann, 2013; Philips & Mace, 2008). Individual practice may expose musicians to higher sound levels than group rehearsals because most noise exposure comes from a musician's own instrument and practice is likely to take place in a small room (resulting in higher reflection of sound) and be of greater intensity (Schmidt et al., 2011). Given that practice is only one type of activity in which musicians engage – and considering that noise exposure is cumulative – it must be acknowledged that all musical activities can be associated with the development of hearing problems.

longer be efficiently transmitted into the inner ear." From <http://www.nhs.uk/Conditions/otosclerosis/Pages/Introduction.aspx>

¹⁴ Various studies have measured the sound pressure levels associated with musical instruments (usually within orchestral settings). Schmidt et al. (2011) reported that violinists and viola players are typically exposed to between 89 and 98 dB, brass to between 86 and 98 dB and woodwind to between 80 and 97 dB; peak exposures for all instruments are higher than 115 dBC. There can be a large difference in exposure between the left (95-99 dB) and right ear (89-92 dB) of shoulder string players, due to a combination of own instrument asymmetry and seating position within an ensemble (Gade, 2010; Royster, Royster, & Killion, 1991; Schmidt et al., 2011).

Once permanent hearing damage has been caused treatments are not able to fully restore that individual's hearing. Paul Checkley, from the Musicians' Hearing Service, commented that "noise induced hearing loss is 100% preventable and 100% irreversible". Management strategies for those with partially affected hearing generally include avoidance of loud situations and appropriate use of ear protection to avoid further damage, distraction techniques and – where appropriate – the fitting of hearing aids.

Music performance anxiety

Performance anxiety disorders are a subset of anxiety disorders that relate to performance such as public speaking, test taking, sport, dance, and acting. Music performance anxiety (MPA) is a form of performance anxiety that relates specifically to music performance. The most comprehensive and up-to-date definition of MPA is outlined by Kenny in a research article (2009) and supported by relevant literature and reported findings from clinical trials in Kenny (2011):

Music performance anxiety is the experience of marked and persistent anxious apprehension related to musical performance that has arisen through underlying biological and/or psychological vulnerabilities and/or specific anxiety-conditioning experiences. It is manifest through combinations of affective, cognitive, somatic, and behavioural symptoms. It may occur in a range of performance settings, but is usually more severe in settings involving high ego investment, evaluative threat (audience), and fear of failure. It may be focal (i.e. focused only on music performance), or occur co-morbidly with other anxiety disorders, in particular social phobia. It affects musicians across the lifespan and is at least partially independent of years of training, practice, and level of musical accomplishment. It may or may not impair the quality of the musical performance (Kenny, 2009, p.433).

The occurrence of a complete performance breakdown – i.e. when the musician is unable to continue the performance – is relatively rare¹⁵ (Hardy & Parfitt, 1991; Kenny, Driscoll, & Ackermann, 2014) and the high quality of a performance does not negate the presence of MPA. Manifestations of affective, cognitive, somatic and behavioural symptoms (Kenny, 2009) are described by Klickstein (2009, see pp. 136-139) in relation to musical preparation and performance:

1. **Pre-performance symptoms** can result in behavioural (e.g. avoidance of practice or obsessive practice, substance abuse) and emotional consequences (e.g. distorted thinking leading to headaches, insomnia, difficulty focusing)

¹⁵ Polyvagal theory (Porges, 2001; 2007) suggests that the higher the perceived threat level the more likely we are to use primitive threat responses. The freeze response is the oldest threat response therefore it may be that the perception of threat in social performance situations rarely reaches the levels necessary to trigger this response.

2. **At-performance symptoms** (e.g. cold or shaking hands, racing heart, dry mouth, sweating, tension, and vomiting) may be the most well-known symptoms of anxiety. These symptoms can lead to real or perceived impairment of performance and/or behavioural and mental effects including confusion, agitation and fear, which can result in memory lapses or catastrophizing of mistakes
3. **Post-performance symptoms** can mirror pre-performance effects or blend seamlessly into them when distorted thinking about the performance's success leads to misattribution of impairments resulting in shame, anger or hostility, avoidance of practice, fatigue and substance abuse.

A recent survey of mental health in the UK (McManus et al., 2009) found that 4.7% of the population have experienced anxiety problems and up to 9.7% have mixed symptoms of anxiety and depression. Research suggests that general anxiety disorders are common among musicians in various countries (Ackermann et al., 2014; Barbar, de Souza Crippa, & de Lima Osório, 2014; Vaag, Bjøngaard, & Bjerkeset, 2015; Voltmer et al., 2012; Wristen, 2013). Large-scale surveys investigating the prevalence of MPA are scarce, outdated and utilise ambiguous and different definitions or reference terms (Fishbein et al, 1988; James, 1998; Lockwood, 1989; van Kemenade, van Son, & van Heesch, 1995). Despite these and other semantic issues (see Brugués, 2011a for a review) research suggests that MPA is widespread among musicians and problematic for them (Fehm & Schmidt, 2006; Jabusch & Altenmüller, 2004; Osborne & Kenny, 2005; Rae & McCambridge, 2004; Smith & Rickard, 2004). Nearly three-quarters of musicians who responded to a UK survey ($N=552$, Help Musicians UK, 2014) reported experiencing 'performance anxiety' that affects their musical life.

Charles Darwin (1859; 1872) observed that in threatening situations humans display a set of physiological responses that enables them to take appropriate action. This set of responses includes acceleration of heart rate and respiration, reduction in digestion, dilation of blood vessels in muscles and constriction of blood vessels elsewhere, pupil dilation, loss of peripheral vision, and auditory exclusion (Kenny, 2011) or – in simpler terms – a racing heart, breathlessness, butterflies in the stomach, cold hands, a pale face, and tunnel vision.¹⁶ Stress is a demand that requires a coping response, typically resulting in arousal; in some situations this arousal is desired and results in anticipation, excitement or passion. It is only when arousal responses are undesired, uncontrollable, or

¹⁶ These responses were codified by Cannon (1929) and became part of the general adaptation syndrome developed by Selye (1936; 1950). The general alarm reaction is better known as the 'fight or flight' response, or more fully the 'fight-flight-fright (freeze)' response (Kenny, 2011). The freeze response is not often mentioned; it is this response that creates the immobility (paralysis) that is characteristic of true 'stage fright' (Coyle, 2006).

occur in situations that are perceived as threatening that physiological responses become associated with anxiety (Selye, 1955). Barlow (2000) outlined a set of three vulnerabilities related to the development of anxiety disorders:

5. Generalized biological vulnerability.
6. Generalized psychological vulnerability (developed as a result of specific early life experiences with caregivers or important others)
7. More specific psychological vulnerabilities created when learning experiences result in the association of anxiety with certain environmental stimuli.

The presence of biological and/or psychological vulnerabilities may be sufficient to produce a generalized anxiety or mood disorder but presence of a specific psychological vulnerability is necessary to associate an anxiety disorder with a specific situation such as musical performance (Barlow, 2000).

Kenny's definition of MPA includes three interrelated causes that reflect the vulnerabilities suggested by Barlow (2000). Some research suggests that females are more likely to experience MPA than males (Kenny & Ackermann, 2015; Thomas & Nettelbeck, 2013); however, recent research found no differences between the proportion of males and females reporting MPA (Rae & McCambridge, 2004; Fehm & Schmidt, 2006). Kenny (2011) suggested that MPA can occur regardless of age, training or experience and can affect musicians throughout their life and career. However, respondents under the age of 30 were significantly more anxious compared with the older group in a recent study with Australian orchestral musicians (Kenny et al., 2014). Orchestral musicians reported that excessive physical arousal prior to or during performance and not knowing how to manage physical arousal can be causes of MPA (Kenny & Ackermann, 2015). Research has documented the presence of MPA in musicians as young as eight years old (Ryan, 2005). The development of MPA in children seems to follow an increase in cognitive capacity, self-reflective function, the capacity for understanding others' perspectives and the development of technical skill and mastery (Brugués, 2011a; Kenny & Osborne, 2006). Researchers have expressed concern regarding the role that perfectionism¹⁷ plays in the development of MPA (Dobson, 2010; Kenny, Davis, & Oates, 2004; Patston, 2014). Many musicians describe traumatic memories of giving a performance that occurred at about the same time as the onset of MPA (see Kenny, 2011, pp.268-279 for narratives). MPA can be triggered by a range of performance

¹⁷ Frost et al. (1990) define perfectionism as follows: "...excessive concern over making mistakes, high personal standards, perception of high parental expectations and high parental criticism, the doubting of the quality of one's actions, and a preference for order and organization (p.449).

settings, but situations involving high ego investment, evaluative threat (audience), and fear of failure are more likely to provoke anxious responses (Kenny, 2009). An increase in audience size and a performer's perception of the importance of a performance increases the likelihood of MPA in children (LeBlanc et al., 1997) and adults (Kenny & Osborne, 2006). Goal-setting theory (Locke & Latham, 1990) suggests that there are two types of performance goals:

8. Mastery goals: success based on development of the skills necessary for the task
9. Performance goals: success based on the outcome of the task in two ways
 - a. Performance approach goals: directed towards winning or succeeding
 - b. Performance avoidance goals: directed towards not losing or failing.

Musicians who employ mastery goals are more likely to produce optimal performances compared with those who use performance goals (Lacaille, Whipple, & Koestner, 2005). The development of technical mastery through experience could be expected to reduce the discrepancy between performance demands and resources; however, narratives have shown that being thoroughly prepared for a performance does not always prevent MPA.

Treatment options for MPA are developing quickly and researchers are struggling to validate their effectiveness (Kenny, 2011); treatment options listed in Table 2.1 have been evaluated by researchers. A study with Australian orchestral musicians indicated that 31% of respondents reported using beta-blockers, 5% used anxiolytics, and 4% took antidepressants (Kenny et al., 2014); participants also increased practice time, did mock performances, familiarised themselves with the venue and practised relaxation techniques before stressful events. Performance preparation programmes can include increased practice strategies, deep breathing, positive self-talk, performance practice, reduced exposure to negative performances, and mental skills training: such strategies have been shown to reduce the effects of MPA (Clark & Williamon, 2011; Kenny, 2004; Osborne & Kenny, 2008; Rae & McCambridge, 2004). Some musicians use or abuse alcohol, nicotine, caffeine, alternative medicine, cannabis or other drugs to deal with MPA (Hallam & Gaunt, 2012; Kenny et al., 2014).

Table 2.1: Summary of MPA treatments evaluated by research (drawn from Kenny, 2011)*

Cognitive behavioural	Psychodynamic	Other therapies	Other interventions
Cognitive behavioural interventions for MPA (p.187-188) See also Brugués (2011b)	Psychoanalytic treatment of MPA (p.174-177)	Behavioural treatment of MPA (p.181-182)	Music therapy (p.195-196)
Mindfulness-based Treatment for MPA (p.191)	Attachment-based psychotherapies (p.171-172)	Cognitive therapy for MPA (p.185-186)	Biofeedback (p.196-197)
Acceptance, commitment and dialectical behaviour therapy (p.188-189)	Intensive short-term dynamic psychotherapy (p.172-174)	Multimodal therapies (p.192-194)	Ericksonian resource retrieval (p.197) See also Richard (1992)
		Group therapy See Montello, Coons, & Kantor (1990)	Hypnotherapy (p.197-198) See also Stanton (1993)
		Stress inoculation See Saunders et al. (1996)	Alexander Technique (p.198-199) See also Klein, Bayard, & Wolf (2014); Little et al. (2015); Valentine et al. (1995)
			Emotion-based therapies (p.199-200)
			Performance-based approaches (p.202-217) See also Clark & Williamon (2011); Kirchner (2011); Merrit, Richards, & Davis (2001)
			Pharmacotherapy (p.218-223) See also Brugués (2011b)
			Meditation See Chang, Midlarsky, & Lin (2003)
			Neuro-linguistic programming Valentine et al. (2006)
			Yoga for MPA (p.191-192). See also Stern, Khalsa, & Hoffman (2012)

*Note: Page numbers indicate further information provided in Kenny (2011).

2.1.2 The impact of performance-related problems on musicians

The preceding section outlined definitions of four types of performance-related problems (PRMDs, vocal disabilities, hearing problems, and MPA), research relating to the prevalence of those PRPs amongst musical communities, risk factors that may be associated with the development of those PRPs, and some common treatment and/or management approaches for dealing with those PRPs. The next section outlines some of the effects that PRPs can have on musicians.

Musicians often begin their studies at an early age resulting in their ability to play/sing becoming integral to their identity and lifestyle (Davidson & Burland, 2006; Hargreaves et al. 2007; Ryan, 2010); removal of the ability to engage in musical activities can therefore affect a musician's identity and lifestyle. Peers can be a source of support for musicians (Guptill, 2011a; 2011b) but researchers have reported that musicians can exhibit a fear of disclosing PRPs or seeking help for such conditions (Bragge et al., 2006; Kenny et al., 2014; Park, Guptill, & Sumsion, 2007) which may affect their social lives.¹⁸ MSDs interfere with occupational activities, can reduce productivity, and result in absence and chronic disability (European Agency for Safety and Health at Work, 2008). PRPs can interfere with the process of becoming a musician (Brandfonbrener, 2004; Park et al., 2007) and there are financial implications for professional musicians (Engquist et al., 2004; MacNamara, Holmes, & Collins, 2006). Many performing musicians in the UK are freelance and unlikely to be granted sick pay during recovery from a PRP: some organisations provide support¹⁹ but charitable resources are limited. A study with British orchestral musicians revealed that 22% of participants (53 of 243 participants) believe they may lose their job if illness stops them working for three months (Leaver et al., 2011). In summary, the findings of research into the impact of PRPs on professional musicians' lives suggest that PRPs affect physical, emotional, social and financial aspects of musicians' lives; that disruption of the ability to make music can be devastating and career-threatening; and that PRPs interfere with musicians' enjoyment of playing, relationship with their instrument and artistic expression (Guptill, 2011a; 2011b; Paarup et al., 2011; Schoeb & Zosso, 2012). These results suggest that every effort should be made to prevent the development of PRPs.

¹⁸ This 'culture of silence' has been related to a fear of being viewed as unreliable or replaced with a healthier musician (Bragge et al., 2006; Park et al., 2007). Alternatively Guptill (2011a; 2011b) suggests that musicians' silence on this subject could be related to a lack of the time or money necessary to seek help, a lack of available health support or a desire for privacy.

¹⁹ For example Help Musicians UK (see www.helpmusicians.org.uk for more information).

Musicians who change the focus, direction, or intensity of their musical engagement experience a transitional period; e.g., from student to professional or between various musical roles (e.g. performer, teacher, or examiner). Transitional experiences can be positive “symbolic growth experiences” (Moustakes, 1990, p.99) but where a transition is unwanted, unexpected, or unprepared for it is likely to be negatively perceived. This type of transition could be caused by health problems, or a negative transition may cause health problems (Fryer & Fagan, 2003; Waters, 2007). Some of the transitional periods that musicians experience have been researched (Burland & Pitts, 2007; Creech et al., 2008; Oakland, MacDonald, & Flowers, 2013; Slawsky, 2011) but not those relating to PRPs. Sports psychology research suggests that athletes who derive their identity solely from athletic activities experience greater levels of distress upon disengagement from those activities than those who have other aspects of their identity (Alfermann, Stambulova, & Zemaityte, 2004; Brewer, van Raalte, & Linder, 1993). Whilst a high level of engagement and commitment to performance may be advantageous in terms of excellence (Oakland et al., 2013; Werthner & Orlick, 1996) it can be problematic when an individual has to stop performing (Miller & Kerr, 2002; Oakland et al., 2013). Ryan (2010) suggests that factors allowing a positive interpretation of interruptions include: interaction with successful role models; positive exposure to alternative career options; awareness of identity research; maturity; and engaging with music outside the place of work or study. Every effort should be made to help musicians manage PRPs before they terminate their engagement with music; where this is not achieved support must be offered to help musicians make a positive transition and continue interacting with the musical community, otherwise their knowledge and expertise will be lost.

The interaction of bio-, psycho-, and sociological factors in the aetiology of PRPs makes it difficult to investigate the effects of isolated conditions. Physical pain can be affected by psychological factors such as stress, anxiety, and depression and can also be a symptom of these factors (Kroenke et al., 2011; McFarlane, 2007). Occupational stress was identified as a PRMD risk factor over 10 years ago (Middlestadt & Fishbein, 1988; Spahn, Hildebrandt, & Seidenglanz, 2001); however, in recent years there has been increased interest in the association between psychosocial factors and PRMDs (Kaufman-Cohen & Ratzon, 2011; Kenny et al., 2014; Halleland et al., 2009; Leaver et al., 2011; Rickert, Barrett, & Ackermann, 2015; Wristen & Fountain, 2013). A large percentage (84% of 377) of professional orchestral musicians in Australia (Kenny & Ackermann, 2015)

reported that they had experienced pain that interfered with their performance: there was a significant association between severity of pain and depression, a non-significant association between pain frequency and depression, and with more severe PRMD pain there was also an increase in MPA scores. Musicians need to be assessed and treated quickly to avoid the development of compensatory mechanisms that produce less efficient habits and increase the risk of further problems (Ranelli et al., 2011).

2.1.3 Collaborative approaches to the treatment of performance-related problems

Given the potential impact that PRPs can have on musicians' physical, emotional, and social well-being it is imperative that effective means of treating or managing PRPs are available. Some of the common ways of treating/managing PRPs were identified in Section 2.1.1; a wide range of individuals and organisations are involved in providing this support and clinical care. Respondents to the Help Musicians UK Survey (2014) reported that they had sought advice from a mixture of HCPs (47% of respondents) and friends or family (29% of respondents). Those who sought help from HCPs paid for private treatment, accessed NHS support via their GP or another route, and/or were offered help or advice from Help Musicians UK and BAPAM. Other sources of advice included organisations such as the Musicians' Union (MU) and Incorporated Society of Musicians (ISM), religious organisations, CAM practitioners, support groups, and body awareness specialists (e.g. Alexander Technique or Feldenkrais practitioners, and Yoga or Pilates instructors). Tertiary-level musicians often consult their primary study teacher prior to – and sometimes in preference to – seeking advice from an HCP (Ackermann et al., 2011; Kwak et al., 2014; Norton & Greasley, 2014; Petty, 2012; Potter, 2012; Williamon & Thompson, 2006). Musicians are likely to consult representatives from different disciplines as they often access treatment/management support serially or simultaneously (Boullet, 2003; Macfarlane & Rietveld, 2009; Potter, 2012; Wynn Parry, 2003).

Researchers, musicians and HCPs advocate a collaborative approach to caring for musicians' well-being that involves representatives from disciplines identified in the preceding paragraph (Davies et al., 2007; Frederickson, 2002; Heman-Ackah et al., 2013; Horvath, 2008; LaPine, 2008; Palac, 2008; Potter, 2012). Increased interaction between representatives from the fields of sport, music and dance could also enhance the education and support available to performing artists (Gould, 2002; Manchester, 2011;

Palac, 2008; Poczwardowski & Conroy, 2002; Potter, 2012). Clear communication is essential and this can be made difficult by collaborators' differing backgrounds and educational experiences. PAM researchers use phrases such as a "partnership among musicians, music educators, and health care providers" (Frederickson, 2002, p.44) or a "multidisciplinary approach to vocal health" (LaPine, 2008, p.28) without defining what that means in practice. As an exception, Palac (2008) suggests that "a collaborative, multidisciplinary approach is the best way...to handle issues of musicians' health" (p.20) and recommends that health professionals should diagnose and treat musicians, music teachers should provide pedagogy that is based on principles that are informed by research, and body awareness specialists should provide knowledge of the body in music-making. In her model "each discipline informs, reinforces, and responds to the others, without violating professional boundaries" (p.20): i.e. doctors should not correct musical technique and teachers should not recommend treatment.

Taylor and McEwan (2012) outlined the differences between multi-, inter-, and trans-professionalism in the context of sports coaching (see Table 2.2).

Table 2.2: Types of professionalism (derived from Taylor & McEwan, 2012)

Type of professionalism	Summary description derived from Taylor and McEwan (2012)
Multi-professionalism	"individuals and groups work with the same issue, but in individual and often siloed relationships" (Leathard, 1994). The "intention may be that this marriage...will provide an integrated approach, in reality...they may be no more than a joining of professionals in a linear sense" (p.40)
Inter-professionalism	A truly collaborative approach whereby "individuals or groups work in concert with others in an attempt to maximize efforts and provide security...a collective aim or focus can be seen as the glue that bonds these elements together" (p. 41)
Trans-professionalism	A situation where there is a "blurring of professional remits and boundaries, where individuals not only have knowledge of others' roles, but can, if appropriate, take on their responsibilities" (p.41)

Specialist PAM and voice clinics²⁰ have been established; a range of professionals are represented at these clinics and teams generally work collaboratively to provide tailored care (Ambegaonkar & Caswell, 2011; Chong, Zaza, & Smith, 1991; Heman-Ackah et al., 2013; Wynn Parry, 2003). At specialist clinics it is more likely that interactions are inter-professional as they have a collective focus and are not physically isolated from one another. A quotation from Gaunt (2011) suggests that current professional interactions among individuals working in conservatoires are multi- rather than inter-professional:

²⁰ Voice clinics are more prevalent than PAM clinics for instrumentalists, possibly as their services can be accessed by a larger number of professional voice users and are therefore more financially viable.

Although musicians may have access to and input from a number of professionals other than their one-to-one teacher: academic teaching staff, chamber coaches, health professionals etc., there is perhaps rarely the same kind of teamwork organized between them, nor the detailed building of a personalized training and development programme. The one-to-one teacher, for example, in Higher Education music often still works in relative isolation, with little connection to a student's other learning experiences and teachers' (Gaunt, 2011, p.176).

Despite calls for collaborative approaches to healthcare for musicians the extent to which existing professional interactions between stakeholders in a variety of musical environments are multi-, inter-, or trans-professional by nature is not yet known.

2.1.4 Prevention of performance-related problems

The PAM field has been developing since the 1980s and understanding of the aetiology, epidemiology and treatment of PRPs has advanced considerably. However, to date there is relatively little literature available on injury prevention or health promotion and there have been limited changes in the music profession (Guptill, 2011a; 2011b; Rickert et al., 2013). The majority of PRPs are preventable if appropriate education and support are available (Chan & Ackermann, 2014; Chesky, Devroop, & Ford, 2002; Wynn Parry, 2003; Winspur & Warrington, 2010). Treatment may be able to return musicians to near or fully functional capacity, but there are implications in terms of physical and psychological distress, loss of income, and – in severe cases – cessation of musical activities. This has led researchers to suggest that the best form of treatment is prevention (Brugués, 2011b; Butler, 2005; Potter, 2012), or as Manchester (2006) quipped “a sixteenth note of prevention is worth a whole note of cure” (p.1). In addition to the obvious implications for musicians themselves, it is also important to recall that musicians take part in activities that support the health and wellbeing of others.

How could performance-related problems be prevented?

In the 21st century, calls for health promotion programmes for musicians are increasingly prevalent (e.g. Broaddus-Lawrence et al., 2000; Chesky, Dawson, & Manchester, 2006; Engquist et al., 2004; Santucci, 2009; Schink et al., 2014; Timmermans et al., 2005). The design of effective programmes must address three questions: i) when will they take place, ii) what will they involve, and iii) who will be involved? Danna and Griffin (1999) undertook a review and synthesis of literature relating to occupational health and wellbeing and proposed a framework for organising and directing future theory, research and practice that could be applied to performing arts medicine and the prevention of PRPs.

The framework involves three levels: i) the first level covers antecedents such as work setting (health, safety and other hazards), personality traits, and occupational stress, ii) the second level covers existing well-being in the workplace including life and work satisfactions and physical and mental health, and iii) the final level outlines individual and organisational consequences arising from a failure to maintain good well-being. The authors suggest that interventions aimed at improving well-being can be effective when introduced at any of these three levels.

The Institute for Work and Health use three terms to describe the type and timing of health promoting interventions: primary prevention, secondary prevention, and tertiary prevention (Institute for Work and Health, 2015). Primary prevention involves avoiding exposure to risk factors, altering unhealthy or unsafe behaviours, and increasing resistance to disease or injury thereby preventing conditions before they develop. Primary prevention requires knowledge of risk factors that have been shown to be involved in the development of PRPs; further research is needed but there is growing understanding of the risk factors associated with PRPs (see Section 2.1.1). This information needs to be disseminated to stakeholders for them to act on, but formal health and fitness education are not consistently included in musicians' training or workplaces (Dommerholt, 2009; Kreutz et al., 2008; Tubiana, 2001). A recent initiative in Australia called 'Sound Practice' (Chan & Ackermann, 2014) provided professional orchestral musicians with information about physical, psychological, nutritional and auditory health; respondent feedback suggests that there is high demand for this education and a desire for it to be available throughout training. Secondary prevention involves increasing understanding of performance impairments so they are identified quickly and dealt with appropriately thereby reducing the impact of a condition that has begun to manifest. As pointed out in Section 2.1.3, very little research has investigated collaborations between stakeholders involved in music education and PAM.

Bennett (2008, p.51) identifies seven foci for injury prevention among musicians (the first three relate to secondary prevention and the final four to primary prevention):

1. Increased physiological and psychological awareness from earliest stages of musical development;
2. Availability and affordability of treatment and advice;
3. The necessity for musicians to become more physically and psychologically aware;
4. A general lack of pedagogical training amongst instrument tutors at every level, and the potential role of tutors in reducing incidence of playing-related injury (PRI);

5. The role of conservatoires in promoting healthy work practices for students and in providing suitable professional development for instrumental staff;
6. The need for proactive measures such as the development of a fitness regime;
7. The role of professional organisations in promoting healthy workplaces.

Tertiary prevention involves preventing a pre-existing condition from getting worse by helping people to manage long-term, complex health problems thereby improving their ability to function and quality of life. Primary, secondary and tertiary prevention align closely with the antecedent, existing, and consequential stages of interventions identified by Danna and Griffin (1999). At present, most interventions for musicians are situated at the consequential level when musicians who have developed PRPs seek help to manage their symptoms (tertiary prevention). Some initiatives aim to address existing problems by raising awareness of PRPs and encouraging musicians to seek help to prevent them from developing further (secondary prevention). To prevent PRPs from developing at all initiatives should focus on primary prevention situated at the antecedent level.

Da Costa and Vieira (2010) suggest that health promotion programmes should *mitigate risk factors* for which there exists a reasonable evidence-base by calling on the *expertise of qualified professionals* and the *educated opinion of stakeholders* in the target environment (pp.318-319, emphasis added by researcher). It is therefore important to identify which individuals and organisations are counted as qualified professionals and relevant stakeholders in the target environment. There is evidence to suggest that including workers in the design and implementation of a scheme positively affects the success of an intervention (European Association for Safety and Health at Work, 2008). The PAM field already makes use of qualified professionals: they are involved in the treatment of PRPs and in many cases are engaged in developing or supporting health promotion programmes.²¹ The opinions of other stakeholders are less commonly sought; it is worth exploring who musicians interact with to understand which groups should be included in health promotion programmes.

²¹ For example, the Association of Medical Advisers to British Orchestras (AMABO) provides orchestral musicians with access to free, confidential advice on health or medical conditions that affect their performance from qualified doctors who specialise in PAM. See Manchester (2007a; 2007b; 2006c) for examples of tertiary health promotion programmes from around the world, with reference to the faculty involved in their development and maintenance. Educational programmes for musicians often include guest lectures delivered by qualified practitioners with experience in PAM and educational resources are likely to have had editorial and/or authorial input from qualified healthcare professionals (e.g. Grindea, 1995; Heman-Ackah et al., 2013; Kenny, 2011; Norris, 1993; Paull & Harrison, 1997; Rosset i Llobet & Odam, 2007; Williamon, 2004).

Stakeholders in performing arts medicine and music education

HCPs are important stakeholders in PAM but are rarely involved in the initial stages of musical education and are unlikely to play a formative role in the development of musicians' beliefs and attitudes. Young musicians' parents/carers affect musical development (see Creech & Hallam, 2009 and McPherson, 2009 for reviews) and researchers have suggested that parents/carers should be included in health promotion (Ackermann & Driscoll, 2013; Gembris & Ebinger, 2015; Kenny, 2011; Polifonia Working Group, 2010; Ranelli et al., 2011; Wynn Parry, 2000). Interaction with other musicians can influence a musician's well-being; for example, the willingness of some famous musicians to share their health concerns has led to a wider acceptance of the need for health promotion.²² Alternatively, treatment advice can be handed from musician to musician (Guptill & Zaza, 2010; Surow & Lovetri, 2000) and Brandfonbrener (2003) warned against 'friends bearing gifts' in the form of musicians writing books containing health advice.²³ Musicians take part in various musical ensembles and the directors of those groups can influence the health of members (Cooper, Hamann, & Frost, 2012; LaPine, 2008; Webb, 2007; Wright Reid & Holland, 2008). School teachers influence musicians, often beyond the time that direct contact has ended and especially if the musician decides to become a school music teacher (Purser, 2005; Welch et al., 2010). Many musicians attend tertiary-level institutions and researchers have called for such institutions to protect students' health and well-being (Bernhard, 2010; Ford, 2013; Gaunt, 2011).²⁴ The concluding declarations from the Health Promotion in Schools of Music conference state that: tertiary-level music colleges have a substantial influence on students' values, beliefs and actions; all aspects of performance-related health should be addressed; and there is a need to prepare health-conscious music educators (Chesky et al., 2006).

²² See, for example, the lives of Julian Lloyd Webber, Gary Graffman, Leon Fleisher, Janet Horvath, Mark Knopfler, Sinead O'Connor, and Barbara Streisand.

²³ While conceding that such books are likely to be based on considerable experience, and motivated by the best of intentions, she notes that boundaries can be blurred when authors offer advice that is not from their field of expertise (i.e. offering medical advice that they are not qualified to give).

²⁴ Researchers have previously expressed concern that music courses at these institutions do not currently provide sufficient information and training to allow students a smooth transition into professional life (Bennett, 2009; Gembris & Langner, 2006; Lehmann, Sloboda, & Woody, 2007; Perkins, 2013). Some institutions have implemented health promotion programmes: the number of courses is limited, they are rarely compulsory, and generally only provided where a faculty member has the knowledge and motivation to support them but preliminary analysis of such initiatives suggests that these courses have a positive impact on health and wellbeing (Barton & Feinberg, 2008; Martín López & Martínez, 2013; Spahn et al., 2001; Spahn, Nusseck, & Zander, 2014; Zander, Voltmer, & Spahn, 2010). A UK scheme, the BAPAM Student Advocate Scheme, inspires performing arts students to act as health promotion advocates at their institutions (see Norton & Greasley, 2014 and www.bapam.org.uk/sas for more details).

In addition to the stakeholders identified above many musicians come into contact with instrumental or vocal teachers during their education. Instrumental or vocal tuition is an important part of musical education, particularly for Western classical music performers (Welch et al., 2010) and especially in a conservatoire environment (Gaunt et al., 2012). Instrumental and vocal teachers are often perceived as role models (Jørgensen, 2000) and the relationship between an instrumental/vocal teacher and their pupil has been described as complex and influential (see Bakker, 2005; Creech & Hallam, 2011; Davidson et al., 1998; Gaunt et al., 2012; Nerland & Hanken, 2002). Researchers have suggested that teachers could use this influence positively by modelling healthy behaviours to their pupils (Chesky, 2008; Horvath, 2008; Patston, 2014; Steele, 2010; Trollinger, 2007). In addition, the benefits conferred by learning to use the body appropriately when playing/singing could be transferred into everyday life; for example, vocal communication is vital for people of all ages and techniques for appropriate voice use could be disseminated via music education (Chesky et al., 2006). Teachers are also involved in teaching elements of music education that have been identified as risk factors; therefore they are key stakeholders in the primary prevention of PRPs (see Section 2.1.5). Furthermore, teachers are influential in terms of their relationship with other stakeholders: for example, many musicians who experience a PRP will consult their music teacher prior to consulting a HCP (see Section 2.1.3); parents are usually responsible for selecting their child's instrumental/vocal teachers and continue to be guided by teachers regarding musical development; and tertiary-level music education is often delivered, at least in part, by instrumental/vocal teachers.

In summary, instrumental/vocal teachers are a “logical target for education about preventive methods” (Zaza, 1994, p.6) as a result of their central position in music education and influence on primary and secondary prevention of PRPs. Musicians are frequently compared with athletes and dancers (Bird, 2009; Chan & Ackerman, 2014; Dawson, 2008; Gaunt, 2011) and research in those disciplines has shown the importance of including teachers in health promotion (Hays, 2002; Howse, 1994; Palac, 2008; Smith et al., 1995). It is imperative that the views, beliefs²⁵ and behaviours of instrumental/vocal teachers are investigated and disseminated within the PAM field to contribute to the development of health promotion initiatives that are effective and efficient.

²⁵ Borg (2011) states that “beliefs are propositions individuals consider to be true and which are often tacit, have a strong evaluative and affective component, provide a basis for action, and are resistant to change” (p.370-371).

2.1.5 'Allies of prevention': instrumental and vocal teachers

"teachers [are] truly appropriate allies of prevention"

(Spaulding, 1988, p. 135)

Early musical experiences establish habits that will either help or hinder a musician; therefore researchers have called for health promotion to be embedded into music education (Blackie et al., 1999; Chesky et al., 2006; Rosset i Llobet, 2004; Spahn, 2011; Voelcker-Rehage, 2012). In 1988, Crispin Spaulding (1988) stated that "our dependence on teachers in the task of prevention is clear – it is not a matter of diplomacy but of health" (pp.135-136). Since this endorsement numerous researchers have advocated the involvement of teachers in health promotion (e.g. Barton & Feinberg, 2008; Brandfonbrener, 2002; Chesky et al., 2002; Frederickson, 2002; Guptill, 2012; Palac, 2008; Petty, 2012; Ranelli et al., 2011). Zaza (1993) stated that teachers are logical advocates of prevention because they are already included in influential networks, personalised instruction can improve long-term maintenance of changes, teachers have existing credibility as role models, and it is easier to instil correct behaviours than change bad habits. Chesky commented that "the ability to make changes and the responsibility for doing so belong to the person who holds the baton" (2008, p.41); many individuals hold the (metaphorical) baton in terms of guiding musicians' development, but teachers are particularly influential. And yet, application of the *International classification of functioning, disability and health framework* (WHO, 2001) to research within the PAM field highlighted that domains influenced by teachers (Environmental Factors and Activity/Participation) are currently under-researched (Guptill, 2008).

To date, no empirical research has focused on health promotion in the context of UK instrumental/vocal teaching. Some strategies whereby instrumental and vocal teachers could contribute to the primary and secondary prevention of PRPs are set out in the next section. Goodson (1992) asserts the importance of *knowing, listening to* and *speaking with* teachers when investigating teaching environments. Firstly, it is important to seek to 'know' instrumental/vocal teachers: i.e. to investigate the demographic characteristics of musicians who teach, explore those musicians' educational pathways, identify the qualifications that they undertake, and investigate their performance-related health. Most crucially, research must 'listen to' and 'speak with' teachers by facilitating exploration of their current health-related beliefs and behaviours. Existing research relating to these topics are explored below.

Proposed strategies for preventing performance-related problems

Primary prevention

Posture and tension

Posture and technique are mentioned frequently by researchers and educators (e.g. Horvath, 2008; Ranelli et al., 2011; UpJohn, 2014; Wilke et al., 2011) and posture is described as a key element of music tuition and a pre-requisite to producing a good sound in resources by the Associated Board of the Royal Schools of Music (ABRSM, 2011a) and Paul Harris (2008). Educational resources do not necessarily describe ‘good’ posture; resources relating specifically to health promotion more frequently include descriptions but often disagree on what constitutes ‘good’ posture (Horvath, 2010; Paull & Harrison, 1997; Rosset i Llobet & Odam, 2007; Watson, 2009). Shoebridge, Shields, and Webster (2015b) developed a theory of optimal posture that is described as multidimensional (physical, cognitive, emotional and social) and individual as it reflects the person’s history, requirements of the activity, and their intent in the moment. This optimal posture is dynamic, balanced, fluid, open, mechanically efficient, comfortable, grounded, and allows an even, uninterrupted flow of breath. Researchers encourage musicians to play with an economic technique that does not involve excess muscular tension (Altenmüller & Jabusch, 2010; Frederickson, 2002). Quarrier (1995) suggests that teachers should be able to “assess playing positions for undue anatomic stresses and strains” (p.106) which could be achieved by teachers gaining an understanding of anatomy and physiology (Blackie et al., 1999; Britsch, 2005). A recent Australian study (Rickert et al., 2015) indicates that teachers may not be knowledgeable about physiologically-optimised movements and postures. Despite the emergence of biofeedback techniques teachers rely mainly on qualitative approaches to performance feedback (Chan & Ackermann, 2014). Participation in body awareness disciplines such as Alexander Technique, Feldenkrais, Yoga and Pilates is often encouraged (Hallam & Gaunt, 2012; Tomlinson, 2012; Watson, 2009). To date, there is no published research that investigates the extent to which UK teachers pass on information about posture and tension to their pupils.

Healthy habits

Research suggests that teachers can help pupils establish healthy habits such as including a physical warm-up and cool-down, appropriate stretching, taking breaks, pacing practice sessions, avoiding repetition and including alternative practice techniques (Altenmüller & Jabusch, 2010; Guptill & Zaza, 2010; Horvath, 2008). Teachers usually guide or control

repertoire and practice time therefore their advice relating to these factors is important (Britsch, 2005; Heman-Ackah et al., 2013; UpJohn, 2014). Ranelli et al. (2015) recommended that young musicians should practice for no more than 30 minutes a day, be careful when modifying their amount of practice, and take breaks during practice. Researchers have suggested that teachers could encourage pupils to participate in regular exercise, healthy habits and appropriate sleep patterns (Altenmüller & Jabusch, 2010; Blackie et al., 1999; Frederickson, 2002; Zaza, 1994). There is no available data regarding the extent to which UK teachers advise pupils about healthy lifestyles and habits.

Environmental and ergonomic adaptations

Music lessons take place in private studios, on school premises, and at music centres, conservatoires or university departments. In a private room the teacher should be able to control factors such as lighting, temperature, humidity, room layout, room surfaces, and noise-proofing. It is harder for teachers to control the environment in a public building; however, teachers can take steps to modify the environment by bringing their own aids (e.g. music stands, seat modifications, appropriate lighting or heating) or approaching building managers to ask them to modify the environment. Rosset i Llobet and Odam (2007) provide advice regarding how to improve learning and performing environments (see pp. 56-58). The extent to which UK music teachers modify or optimise the teaching environment to reduce pupils' exposure to environmental risk factors is not yet known. Various ergonomic aids for musicians are available, including specially designed seating and music stands,²⁶ instrument accessories,²⁷ and more radical instrument modifications.²⁸ Few researchers have published papers about instrument modifications (Koppejan et al., 2006; Quarrier & Norris, 2001; Wristen et al., 2006; Wristen & Hallbeck, 2009) and Rosset i Llobet and Odam (2007) compiled a synthesis of research that is accessible to musicians. Teachers are likely to have knowledge of instrument adaptations and most pupils are advised how to 'set up' their instrument by their teacher. Providing teachers with anatomical and physiological knowledge may help to reduce problems among children caused by introducing instruments that are an inappropriate weight, shape or size (Davies & Mangion, 2002; Ranelli et al., 2011). The extent to which UK

²⁶ See, for example, www.blackcatmusic.co.uk.

²⁷ See, for example, www.tonkooiman.com, www.ergobrass.com, www.artistinbalance.org/equipment, and www.mundomusicgear.co.uk.

²⁸ See, for example, www.rivinus-instruments.com, www.littleguitarworks.com/torzal-natural-twist, www.flutelab.com, and www.smallpianokeyboards.org.

teachers are aware of ergonomic adaptations and whether they pass information or recommendations to pupils is currently unknown.

Control of noise

Santucci (2009) and Chesky (2008) call for teachers to adapt their environment and educate pupils about the causes and consequences of hearing loss. Suggestions for reducing noise exposure include playing more softly, reducing performance time, incorporating 'quiet breaks', adjusting the room layout, avoiding sources of loud noise, choosing appropriate repertoire, improving venue acoustic, or using specially designed ear plugs (see Rosset i Llobet & Odam, 2007, p.59-60). Instrumentalists who play loud instruments may be more likely to receive training about how to avoid hearing damage; however, musicians who are 'in the firing line' of loud and unexpected sounds may not have received information about how to avoid problems. Teachers of all instruments could provide information regarding how to reduce exposure to risk factors for hearing problems and discourage behaviours that are dangerous to the musician and their colleagues. Research has not been conducted to investigate the extent to which UK teachers take steps to control or modify noise exposure in lessons.

Psychological and social risk factors

Evans, McPherson, and Davidson (2012) suggest that teachers should make lessons interesting and provide opportunities for pupils to acquire new skills and feel competent. Participating in music can have social consequences and teachers should aim to provide an environment that promotes rewarding peer relationships (DeNora, 2001; Evans et al., 2012). Researchers have suggested that to promote a sense of autonomy pupils should be able to influence their activities (Burwell, 2005; Gaunt, 2008; Kupers et al., 2014). Gaunt et al. (2012) report that pupils want their teachers to be supportive but also enable them to take risks and progress beyond their 'comfort zones'; a scaffolding approach to music tuition may therefore be appropriate (Creech, 2012; Hallam, 2006; Needham & Flint, 2003). Steele (2010) suggests that teachers can be particularly effective by employing a 'servant leadership' mentality (see Greenleaf, 1977) whereby the teacher focuses on others' needs and demonstrates humility, honesty, trust, compassion, understanding, selflessness, openness, passion, responsibility and vision. Research with music students in the Czech Republic emphasises the importance of a friendly relationship with the teacher, suggests that strict and overly ambitious or impersonal teachers can negatively affect students, and indicates that some students believe teachers are involved in triggering

MPA (Stevanovic, 2015). Within musical spheres there is increasing emphasis on attending to a musician's development beyond their ability to play their instrument or sing (see, for example, Creech & Hallam, 2003; Goddard, 2002; Koopman, 2002; Nerland, 2007; Rostvall & West, 2003; Ward 2007). Creating an environment that is conducive to learning may be difficult for teachers who have not experienced this first-hand or received training in how to achieve this (Edmondson & Mogelof, 2006).

Altenmüller and Jabusch (2010) suggest that teachers should “correct [their] expectations and listening habits, replacing the fascination of mere perfection and virtuosity with the joy of emotional communication shared with the audience and musicians” (p.9). Tomlinson (2012) proposes the word ‘excellent’ as an alternative to ‘perfect’ as it is attainable, personal, and allows for human fallibility. Offering appropriate feedback to pupils after performances is crucial (Patston, 2014; Sternbach, 2008); feedback should be realistic and balanced as opposed to offering unconditional praise or criticism although this will be influenced by pupil age and maturity (Kohn, 1993). Encouraging pupils to be self-aware and adept at problem-solving can increase their confidence, and errors should be perceived as part of the learning process (Sternbach, 2008; Patston, 2014). Positive goal setting can be achieved by choosing appropriate repertoire, having individualized goals for pupils, structuring lessons to allow pupils to understand progress, and offering appropriate performance opportunities (Kenny, 2011; Patston, 2014). Musicians should be offered frequent, low-stress opportunities to perform and these performance opportunities should be presented positively and non-judgementally so that performance is seen as an “integral, enjoyable, and manageable part of their musical education” (Kenny, 2011, p.288). A study with adult learners suggests that teachers should offer a choice of instrument and environment, understand that learners need to feel supported and able to make mistakes, and facilitate music-making to encourage learners to make the transition into becoming music-makers (Perkins & Williamon, 2014). An American study suggested that instrumental teachers underestimate anxiety levels and the impact of anxiety on pupils who are under-going evaluative performances (Miller & Chesky, 2004). The extent to which instrumental/vocal teachers in the UK are aware of the results of research relating to psychosocial risk factors and employ this research in practice has not previously been investigated.

Secondary prevention

Awareness of non-modifiable risk factors that increase pupils' susceptibility to PRPs could reduce the likelihood of teachers exposing pupils to additional risk during vulnerable periods. A strong pupil-teacher relationship can place the teacher in a trusted position where they notice, or are told about, early signs and symptoms of PRPs (Brandfonbrener & Lederman, 2002; Horvath, 2008; Ranelli et al., 2015; Wristen, 2013). Kenny (2011) suggests that in many cases teachers are unlikely to have garnered the skills and knowledge needed to deal appropriately with pupils' disclosures of health concerns. Timely referral to appropriate support or educational resources reduces the likelihood that one PRP will become a risk factor for another (Laisné, Lecomte, & Corbière, 2012). Being openly supportive of pupils who are experiencing difficulties, allowing time to discuss problems, and being accepting of a pupil's need to seek help or modify activities may help to reduce the 'culture of silence' (Brandfonbrener & Lederman, 2002; Patston, 2014; Wristen, 2013). Teachers influence their pupils' performance-related beliefs and behaviours; they are frequently the 'first port of call' for music pupils seeking advice (Kwak et al., 2014; Norton & Greasley, 2014; Petty, 2012; Williamon & Thompson, 2006), and issues relating to responsibility and duty of care are often raised in relation to their role (Gaunt, 2011; UpJohn, 2014). Teachers play an important role in establishing pupils' health information-seeking behaviours; awareness of a trusted group of specialist professionals to whom pupils can be referred plays a crucial role in aiding secondary prevention (Palac, 2008; Wristen, 2013). Research conducted with contemporary non-classical commercial performers suggests that a major barrier to seeking treatment is awareness of the availability of speciality services (Gilman et al., 2009). By working with teachers it is possible to influence a much larger number of musicians:

Educating teachers about wellness has far-reaching ramifications, since a teacher impacts not only his or her individual students but can ultimately affect the lives of countless future musicians. (Berenson, 2014, p.17)

The extent to which music UK teachers are able to identify and respond appropriately to early signs of PRPs is not currently known.

It is imperative to understand teachers' beliefs regarding the extent of their responsibilities for pupils' health; if teachers do not believe that they are responsible then they are unlikely to engage in health-promoting behaviours. Conversely, if they do consider themselves to bear some responsibility then it is important to understand why

and to investigate what type of information they convey. Current data relating to teachers' perceived responsibility for pupil well-being is sparse and contradictory. Jørgensen (2014) suggested that a sensible approach to responsibility for general pupil development and musical learning is that pupils, teachers, and the institution must share responsibility. However, he suggests that there are 'grey zones' in which stakeholders may 'intrude' on areas that are traditionally not perceived as their task to take care of. Scherer et al. (1994) reported that vocal teachers believe it is their responsibility to look after pupils' health and the majority of teachers in another study felt that that they should be aware of scientific research relating to vocal performance (Latukefu & Verenikina, 2011). Conversely, a sample of music students did not see that it would be their responsibility as a teacher to maintain the motivation or practice habits of their pupils (Frederickson, 2007) and other students reported that it is their responsibility to not 'take on board' emotionally damaging interactions with their teachers rather than the teacher's responsibility not to engage in damaging behaviour (Gaunt, 2011). The concept that promoting health also enhances musical performance is increasingly recognised: for example, Sternbach suggests that "students' well-being need not take second place to the pursuit of excellence in performance; in fact, nurturing the healthy performer is a complementary goal" (2008, p. 47). Research has not focused on UK music teachers' beliefs about responsibility for pupils' well-being and health, or their resulting behaviours. Understanding teachers' beliefs about health promotion is an essential next step that will give researchers a more informed base from which to structure their research and advice.

Summary

The preceding sections have identified ways in which instrumental/vocal teachers *could* engage in the primary and secondary prevention of PRPs. There is a distinct lack of research investigating to extent to which UK teachers are *already* engaging in such behaviours. Furthermore, researchers have not investigated teachers' motivations for engaging in health promoting behaviours or other influences on those behaviours. Investigating UK teachers' health-promoting behaviours could provide valuable information regarding the extent to which health promotion is currently embedded in UK music education. Investigating UK teachers' beliefs regarding health promotion could aid understanding of what influences teachers to engage in health promoting behaviours and therefore how teachers could be encouraged to engage with health promotion in future.

Knowing instrumental and vocal teachers

“In understanding something so intensely personal as teaching, it is critical we know about the person the teacher is”

(Goodson, 1981, p.69)

There are no set rules defining how to develop a career in the music industry and many options are available (see Hallam & Gaunt, 2012, pp.175-228). Relatively few salaried and permanent positions are available and protean careers²⁹ are common (ABRSM, 2014; Burt-Perkins, 2010; Gaunt & Papageorgi, 2010). Education is just one option among many, but it plays a substantial role in many musicians’ lives (Garnett, 2014; Lennon & Reed, 2012). There are many reasons for musicians to engage in teaching activities, including: financial incentives, a love of music and teaching, having been inspired by a prior teacher, enjoyable experiences as a learner, and ability as a musician and/or teacher (Parkes & Daniel, 2013; Welch et al., 2010). Given the wide range of educational environments and routes into teaching it follows that a wide range of musicians are likely to be involved in teaching; however, very little is known about those who do teach music lessons in the UK. The majority of data describing teachers comes from industry-based research by organisations such as the MU, the ISM, ABRSM, and Help Musicians UK. There is no overarching UK organisation that music teachers are encouraged or required to join; rather, there are many organisations and societies that cater for different types of musicians.³⁰ The diverse aims and foci of these organisations mean that their member surveys are unlikely to be representative of the profession as a whole.

Demographic characteristics

The results of a limited number of studies of UK instrumental/vocal teachers suggest that there is a gender imbalance: female teachers comprised 84% of a sample of 263 violin teachers (Creech, 2009), 71% of a sample of 4491 teachers of a variety of instruments (ABRSM, 2014), and 61% of a sample of 94 teachers from local education authorities (Mills & Smith, 2003). In conservatoires this gender imbalance has been shown to be reversed: 67% of the 1433 musicians teaching in conservatoires in 2002 were male (Mills,

²⁹ The term ‘protean career’ was described by Hall (1996) as “a career that is driven by the person, not the organization, and that will be reinvented by the person from time to time, as the person and the environment change” (p.8). The term is derived from the Greek god Proteus, who could change shapes at will to avoid danger.

³⁰ For example, the National Association of Music Teaching Professionals, Music Mark, European Piano Teachers Association (EPTA), European String Teachers Association (ESTA), National Union of Teachers, and The Education Institute of Scotland – to name but a few.

2006).³¹ Little is known about the age at which UK musicians first engage in teaching, and whether they continue to teach throughout their careers. The only large-scale study to report teachers' ages (ABRSM, 2014) found that 52% of the sample were 45-65 years old. A report by Youth Music (Rogers, 2002) included statistics from the National Music Council suggesting that most professional performing musicians take part in activities from pop, rock and country genres (87%) with only 7% working in classical music. Despite this, published research has focused almost entirely on classical musicians (with the notable exception of researchers such as Lucy Green and Gareth Dylan Smith). Research with music service teachers indicates that many teachers give lessons on more than one instrument, but that instruments tend to be closely related (Mills & Smith, 2003).

Calls have been made for a redefinition of the term 'musician' to reflect the changing nature of the profession (Ballantyne & Grootenboer, 2012; Bennett, 2008; Welch et al., 2010). A historical career hierarchy where performing was perceived as more prestigious than teaching has led to many performance students seeing teaching as a 'fall-back' career to be taken up only if they fail to 'make it' as a performer (Garnett, 2011; Weller, 2004). Mills (2004) referred to a musician's 'professional identity' (i.e. what they do) and their 'subjective identity' (i.e. how they perceive themselves, regardless of day-to-day activities). Huhtanen (2004) divided musicians who teach into 'realists' who accept teaching as integral to their identity and 'dreamers' who are engaged in teaching solely to meet financial obligations, but whose interests lie elsewhere. A defining feature of dreamers is that their identity is unlikely to match their activities; Mills and Smith (2002) identified this discrepancy among conservatoire alumni. Practical teaching experience during bachelor's degrees can help to positively influence the beliefs and aspirations of performance students towards teaching (Bennett & Stanberg, 2006; Gaunt et al., 2012; Miller & Baker, 2007). Garnett (2014) explored the employability and identity of 184 UK musicians and of the 105 musicians who were only teaching 68% identified as a teacher compared with only 32% of the 79 respondents who were both teaching and performing. The ABRSM *Making Music* report (2014) is the most recent large-scale study to investigate the identity of UK instrumental/vocal teachers: 97% of the 4491 respondents described themselves as an instrumental/vocal teacher, 32% as a professional performer,

³¹ Mills (2006) suggests that this may be related to the recruitment cycle for conservatoire teachers whereby female students study with a male teacher, decide not to aspire to conservatoire teaching, perform less at the beginning of their career, reduce performing hours as their career develops, and are therefore less likely to acquire the level of experience and renown needed to be appointed as a conservatoire teacher.

16% as a music service/hub teacher, and/or 15% as a classroom teacher. Responses were not mutually exclusive, but given that nearly all respondents reported that they are an instrumental/vocal teacher these results suggest that a substantial percentage of the sample had multiple professional identities. Research by Manturzewska (1990) and Mills (2004) suggests that a musician's identity may vary according to age and activities.

Educational pathways and qualifications

Musicians often begin their studies at an early age and various educational structures³² are available throughout musical development (Rogers, 2002). Most music teachers study for a bachelor's degree in a music-related subject; 32% of the respondents in the ABRSM *Making Music* study (2014) reported a qualification at Level 6 of the Qualifications and Credit Framework (QCF) and a further 39% had studied to level 7.³³ Research with university and conservatoire musicians in the final-year of their bachelor's degree ($N=66$) and those starting a PGCE in secondary music at university ($N=74$) revealed that the majority of both groups had acquired a Grade 8 performance certificate on at least one instrument, school music qualifications, and a bachelor's degree (Welch et al., 2010). Nearly all PGCE respondents had gained teaching experience prior to commencing the course. A poll on the ABRSM forum (ABRSM, 2011b) posed the question 'What is the minimum qualification that you would expect your music teacher to have?' The most common response was a Grade 8 performance certificate ($n=108$, 37%) followed by a DipABRSM or ATCL diploma³⁴ ($n=67$, 23%), bachelor's degree in music ($n=40$, 14%), LRSM or LTCL diploma³⁵ ($n=38$, 13%), or a master's degree in music ($n=24$, 8%). Degree courses are available at universities and conservatoires; those at conservatoires are generally perceived as focusing on the practical elements of their discipline whereas university courses generally focus on academic elements of the discipline.³⁶

³² e.g. self-directed learning, school and music centre lessons, instrumental and school-based exams, participation in ensembles and completion of further and higher education courses.

³³ The QCF unit bank closed in October 2015 and a new Regulated Qualifications Framework (RQF) was introduced with effect from 1st October 2015. Music qualifications referred to in this thesis are categorised at the same levels for the RQF and the QCF. Level 6 is equivalent to a bachelor's degree and level 7 is equivalent to a master's degree, including a Postgraduate Certificate in Education (PGCE).

³⁴ The Performance Diploma of the ABRSM (DipABRSM) and the Associate of Trinity College London (ATCL) are equivalent to the performance standard of a first year undergraduate music student at a conservatoire, university or other tertiary level education establishment.

³⁵ The Performance Licentiate of the Royal Schools of Music (LRSM) and Licentiate of Trinity College London (LTCL) are equivalent to the performance standard of a graduating undergraduate music student.

³⁶ See the Conservatoires UK website (www.conservatoiresuk.ac.uk/frequently-asked-questions) and UK performing arts online directory (www.ukperformingarts.co.uk) for details of differences between conservatoires and universities.

Classroom music teachers are generally expected to have completed initial teacher education (ITE) through an initial teacher training (ITT) (e.g. a PGCE) or employment-based route (e.g. TeachFirst).³⁷ Most PGCE students gain their bachelor's degree from a university rather than a conservatoire (Rogers, 2002). In contrast, no formal pedagogical qualifications are required to teach instrumental/vocal lessons in the UK (ABRSM, 2014; Gaunt, 2008; Polifonia Working Group, 2010). An extract from a UK graduate career website suggests that "there are no set qualifications for private music teachers":³⁸

Private music teacher entry requirements: The most important qualifications are musical competence and knowledge of your instrument plus a commitment to and understanding of the teaching and learning process... Whatever teaching or performing qualifications you acquire, there is no substitute for practical experience. (Association of Graduate Careers Advisory Services Editors, 2012)

A survey of final-year bachelor's students at a UK university revealed that most respondents learned how to teach 'on-the-job' rather than via formal training (Haddon, 2009).³⁹ Baker (2006) reported that relatively few of the instrumental/vocal teachers in his study had intended to become teachers; therefore their training had not been directed towards a pedagogical role. The few respondents who had undergone teacher training deemed it "meagre preparation" for the job of teaching (Baker, 2006, p.44). Baker concluded that it will be a challenge to create teacher training that is valued by instrumental/vocal teachers. The unregulated nature of instrumental/vocal teaching profession has come under scrutiny and the Henley Review of Music Education (2011, p.36) recommended the introduction of a Qualified Music Educator award:

Recommendation 24: A new qualification should be developed for music educators, which would professionalise and acknowledge their role in and out of school. Primarily delivered through in-post training and continuous professional development, musicians who gain this new qualification would be regarded as Qualified Music Educators. It would be as applicable to peripatetic music teachers as it would be to orchestral musicians who carry out Music Education as part of their working lives.

³⁷ Laurence and Durrant (2010) suggest that approximately 85% of ITE is gained through ITT with the remaining 15% delivered through employment-based routes.

³⁸ It is interesting to contrast these requirements with the equivalent extract for Sports Coaches: "You can only become a qualified coach by gaining the appropriate coaching qualification offered by the National Governing Body of your chosen sport...Progress as a sports coach is impossible without these, even if you have a sports-related degree." (Association of Graduate Careers Advisory Services Editors, 2011).

³⁹ Despite the enthusiasm and personal benefits gained through teaching it was concluded that students in the study by Haddon (2009) were not particularly pro-active in relation to their development as teachers, nor were they resourceful in terms of their approach to lesson content, modelling strategies, and teaching of practice techniques. It could be concluded from these results that whilst experience is important, it is not enough to create teachers who are effective and resourceful.

Recommendation 25: Conservatoires should be recognised as playing a greater part in the development of a performance-led Music Education workforce of the future. All graduates from Conservatoires should study the necessary components within their undergraduate courses to enable them to leave with the Qualified Music Educator award.

In response, the Certificate for Music Educators award was developed by the UK Arts Council in conjunction with an advisory steering group.⁴⁰ There are pedagogical courses aimed more specifically at instrumental/vocal teachers; these courses are primarily postgraduate,⁴¹ residential,⁴² or one-off assessments⁴³ but some bachelor's⁴⁴ and continuing professional development (CPD) opportunities⁴⁵ are available. There are many benefits to be gained from participating in CPD: e.g. opportunities for dialogue, enhancement of professional credibility, revitalisation of teaching, introduction of new information to replace outdated information (Burkett, 2011; Hallam & Gaunt, 2012; Purser, 2005). There are difficulties associated with accessing CPD including the double financial loss associated with self-employed teachers paying for CPD and not teaching that day, the isolation of teachers, a lack of incentives to engage, and difficulty finding appropriate courses (Burkett, 2011; Burwell, 2005; Broad, Duffy, & Gardiner, 2007; Purser, 2005). Without access to attendance figures, and with fluctuation in the number of courses available, it is difficult to assess the extent to which teachers are taking advantage of the courses on offer.

⁴⁰ The award consists of six units and is not designed to replace formal teacher training (it does not lead to QTS). Entry requirements include having suitable skills and experience in music practice but a formal qualification in music is not required. The award is not mandatory but the Arts Council hopes that over time it will become a recognised industry standard. The course is currently only available via two regional centres and musicians who choose to take it can expect to pay at least £700 in course fees.

⁴¹ E.g. PGCE with Specialist Instrumental Teaching offered by RNCM in association with Manchester Metropolitan University (MMU), PGCE for Musicians in Education offered by Trinity Laban Conservatoire, Master of Arts (MA) in Performance and Pedagogy offered by Birmingham Conservatoire or MA in Psychology for Musicians offered by University of Sheffield.

⁴² E.g. The Certificate of Teaching (CT) offered by the ABRSM or the Practical Piano Teacher's Course (PPTC) offered by the European Piano Teachers' Association (EPTA) in association with University of Reading and the Purcell School.

⁴³ E.g. Instrumental/Vocal Teaching or Music Direction at the following diploma levels; DipABRSM, LRSM and FRSM. These diplomas also cover the more well-known performance qualifications.

⁴⁴ E.g. Four year BMus (Hons) course in instrumental or vocal teaching or three year BA (Hons) music course with instrumental or vocal teaching offered by the University of Chichester. There are also programmes such as the First String Experience at the Royal Academy of Music that provide undergraduate and postgraduate students with an opportunity to gain practical experience of teaching as part of a structured module in their degree programmes (see www.fsefriends.com/what-is-fse for more details).

⁴⁵ For example; 'Introduction to instrumental and vocal teaching', 'Theory matters', 'Preparing for performance', 'Success for the higher grades', 'Developing jazz techniques', 'Teaching music effectively' and 'Being an effective teacher' offered by the ABRSM.

Aside from recognised qualifications, there are certain qualities that are valued by musicians and educators. Jorgensen (2008) refers to 'dispositions' associated with music teaching: tact, compassion, patience, integrity and enthusiasm. Mills and Smith (2003) explored teachers' perceptions of the hallmarks of effective teaching for teachers of school-age pupils; the most frequently identified was 'enthusiasm', followed by 'knowledge or accomplishment', 'effective communication with students', and 'ensuring students have fun'. However, participants ranked 'knowledge' the highest for tertiary-level students followed by a 'technical focus', 'positive approach', 'development of the student's individual voice', 'wide repertoire', 'providing performance opportunities and career advice' and 'having high expectations'. Music educators undergo an 'apprenticeship of observation' as they observe and evaluate their own teachers (Lortie, 1975). This period of early socialisation is extremely important as it will influence teachers' beliefs and behaviours (Ball & Forzani, 2009; Haston & Leon-Guerro, 2008; Odena & Welch, 2009; Millican, 2013). However, musicians do not necessarily gain the teaching skills they will require during this apprenticeship of observation (Parkes & Daniel, 2013) and may not be able to transfer the skills that they have gained to other contexts (Mills, 2002). Pupils are not privy to the teacher's thought processes and rarely participate in the process of selecting goals, making preparations, or analysing progress so they are generally unaware of the teaching behaviours that they witness (Borg, 2004).

Baker (2006) reports that inductee instrumental/vocal teachers' educational personalities are shaped by recollection of their own learning experiences. None of the 20 conservatoire teachers interviewed by Gaunt (2008) had completed a teacher training course but rather learned to teach 'on the job' while drawing heavily on their own learning experiences. Conservatoire teachers have traditionally been appointed based on their skills and experience as performing musicians as opposed to teaching ability, experience or qualifications (Parkes & Daniel, 2013; Mills, 2006). This situation may be changing as institutions begin to seek teachers who have "impressive performance experiences" but also the "skills, knowledge, and personal qualities necessary to be an effective instructor" (Abeles, 2011, p.19). An increasing number of educators and researchers assert that being a good performer does not necessarily mean that a musician will also be a good teacher (Ballantyne & Grootenboer, 2012; Patston, 2014; Robinson, 2012). Most of the teachers in the study by Mills & Smith (2003) believed that their teaching had been influenced by their own learning experiences: some teachers

described emulating an inspirational teacher, whereas others deliberately taught differently to their teacher(s) (see Purser, 2005). Despite this, teachers do not appear to be “little more than clones of their own teachers” (Mills & Smith, 2003, p. 22) as they were also influenced by courses, books, colleagues, personal music-making, and pupils.

Goodson (2003) suggests that professions are not monolithic entities and within the general teaching profession he distinguished three segments (see p.85):

1. An elite or vanguard made up of the top 10 to 20 per cent: “the most creative and motivated group and often help define, articulate and extend the ‘mission of teaching’ generally”
2. A mainstream ‘backbone’ group comprising 60 to 70 per cent: “honest, hardworking professionals”
3. A borderline group comprising 10 to 20 per cent: “minimally involved: for them it is ‘just a job’ and some border on the competence level”

The reciprocal interplay between the elite and backbone through mentoring and leadership is vital in motivating and defining the teaching workforce: the commitment of these groups to change and reform is “a basic prerequisite for successful implementation” (Goodson, 1992, p.85). It is often the third group that are the focus of reform and yet Goodson suggests that by focusing on this group little is achieved and there is actually a high chance of demotivating the more motivated groups.

Performance-related problems

The health of instrumental/vocal teachers in the UK has not previously been investigated. Three early studies estimated the prevalence of playing-related injuries (PRI) among American teachers from 29% to 59% (Brandfonbrener, 1989; Barrowcliffe, 1999; Quarrier, 1995). Only 22% of the respondents⁴⁶ in Barrowcliffe’s research reported that they were experiencing a PRI at the time of the study compared with 59% who had a history of PRI. Similar percentages of male and female respondents in Brandfonbrener’s study reported a PRI and the author suggests that other contributing factors (e.g. lifestyle, stress, musical activities, instrument, and hypermobility) need to be investigated. Piano teachers in a study by Rogers (1999) cited personal experience as one of the most common sources of awareness of PRI. In a sample of piano teachers 55% had sought advice for a musculoskeletal problem that affected their ability to play (Redmond & Tiernan, 2001).

⁴⁶ Of the 95 respondents 74% were male and 26% were female with a mean age of 47.7 (SD=11.05), 71% played one instrument on a regular basis, 74% were actively teaching more than one instrument, the mean number of years’ experience teaching at university level was 17.4 (SD=11.05), 16% also taught at a conservatory, 66% taught private music lessons and 25% taught in ‘other’ settings (Barrowcliffe, 1999).

More recent research indicates a high prevalence of musculoskeletal discomfort among Swedish teachers: 77% of 47 teachers⁴⁷ had experienced a PRMD during the preceding 12 months (Edling & Fjellman-Wiklund, 2009) and 82% of 208 teachers⁴⁸ had experienced discomfort during the preceding 12 months (Fjellman-Wiklund et al., 2003). In the second study, teachers of asymmetrical instruments (e.g. flute and violin) were more at risk than those teaching symmetrical instruments, high psychological demands and teaching at many schools were the strongest risk factors for female respondents, and lifting, playing guitar and low social support were the strongest risk factors for the men (Fjellman-Wiklund et al., 2003). Fjellman-Wiklund, Sundelin, and Brulin (2002) utilised a qualitative methodology⁴⁹ to investigate factors that support teachers' health: they report that the cycle of using up and replenishing energy was influenced by goal setting, playing with pupils, managing and modifying life and work activities, music as a goal or a means, and bodily reactions (e.g. frustration, anxiety, worry, stress, pain, and tension). The researchers suggest that it is important to gain information about teachers as they are involved in educating the musicians of the future; therefore, by being positive role models they can contribute to the promotion of good health among their pupils (see also Burwell, 2012; Chesky, 2008; Horvath, 2008; Trollinger, 2007; Jørgensen, 2000).

The health of vocal teachers has been studied in more detail than that of instrument teachers, but no research has been undertaken in the UK. Results of a study with a sample of 125 American vocal teachers and 49 controls⁵⁰ indicate that vocal teachers are more likely to report a history of voice problems compared with controls (Miller & Verdolini, 1995).⁵¹ The most common diagnoses reported by vocal teachers are vocal fold pathology, illness, allergies, improper technique, stress and hormone problems (Miller & Verdolini, 1995). A convenience sample of 72 self-reportedly healthy American singing

⁴⁷ The majority of this sample were female ($N=28$; male $N=19$). The sample of asymmetric instrument teachers including 8 violinists, 5 cellists, 4 guitarists, 3 flautists, 1 double bass and 1 trombone player. The symmetric instrument teachers included 8 pianists, 3 clarinet players, 3 recorder players, 2 trumpet players, 2 percussion players, 1 oboe and 1 bassoon player.

⁴⁸ The majority of this sample were male ($N=120$; female $N=88$). The largest instrumental group represented was 'brass and woodwind' teachers (33%) followed by keyboard (21%), guitar (16%), 'violin and/or viola' (15%), voice (9%), percussion (5%) and 'other' (1%).

⁴⁹ Interviews were conducted with 5 female and 4 male teachers aged 32 to 59 years of age, all interviewees had pedagogical qualifications from a music college (mandatory for music teaching in Sweden) and had been teaching for between 8 and 35 years. Interviewees were purposively selected following participation in a previous questionnaire study (Fjellman-Wiklund & Sundelin, 1998) in order to ensure a range of ages, sexes, instruments, experience and performance-related symptoms.

⁵⁰ Teacher respondents were randomly selected from the membership of the National Association of Teachers of Singing and control group respondents were friends or family of teachers who responded.

⁵¹ 64% of teachers and 33% of controls reported experiencing a vocal problem at some point.

teachers⁵² was recruited at a conference (Sataloff et al., 2012) and examined using stroboscopy⁵³ and acoustic analysis. Results indicate that 86% of participants had signs of vocal abnormalities and 72% had symptoms consistent with laryngopharyngeal reflux. A previous study by Heman-Ackah et al. (2002) also indicated a high incidence of vocal fold abnormality among participants who reported voice complaints (seven American vocal teachers) *and* those who did not (13 vocal teachers).⁵⁴ Self-reported heartburn suggested that 13 of the 20 participants had symptoms of laryngopharyngeal reflux; on examination all participants had signs of reflux laryngitis and associated side-effects (Heman-Ackah et al., 2002).

Studies of hearing have focused on the sound exposure of conductors of student ensembles and results indicate that teachers' activities expose them to sound levels that exceeded the legal limit for the music industry at the time (Cutietta et al., 1994; Zivkovic & Pityn, 2004). Two studies tested hearing loss in USA high school band directors using audiograms and found that hearing problems may be more severe for musicians and more likely to be noise-induced (Cutietta et al., 1994; Pisano, 2007). The only UK research investigating music teachers' exposure to noise is an unpublished project carried out by the Deputy Head of a UK Music Service in 2001 (Edwards, 2001). This report suggested that five of the six staff included in the noise-level testing exceeded recommended daily exposure limits and the one staff member who did not exceed the daily exposure limit was exposed to noise exceeding a peak level of 140dB. This pilot study suggests that further empirical research is warranted to discover whether UK teachers are being exposed to excessive noise levels, and whether their hearing is suffering as a result.

Only two studies have focused on MPA among teachers (Kirchner, 2002; Wesner, Noyes, & Davis, 1990); these studies were conducted in America with small samples of musicians working primarily in tertiary education. Kirchner undertook case studies of six faculty level pianists with MPA and Wesner et al. investigated MPA among undergraduate, postgraduate and faculty level musicians but made no distinction between these groups in their report. Unpublished research by Patston (cited in Patston,

⁵² Most participants were female ($N=60$) and they ranged in age from 27 to 82 years (mean=48.7, SD=12.0).

⁵³ A camera is passed through the nose or mouth and a strobe light used to create a slow motion picture of the vocal cords. This video can then be analysed and used to diagnose disorders.

⁵⁴ Of the 20 volunteers 3 were male and 17 were female. Participants' ages ranged from 22 to 76 years with a mean of 50. There were 13 sopranos, three mezzo-sopranos, one alto and three baritones.

2014) suggests that about a third of those who discontinue their performing career due to debilitating MPA go on to become educators.

Conditions that are mainly physical by nature (e.g. PRMD and NIHL) affect emotional, psychological and social well-being and conditions that are perceived as emotional, psychological or sociological (e.g. MPA) influence physical well-being (Guptill, 2011a; 2011b; Kenny & Ackermann, 2015; Ranelli et al., 2015; Wristen & Fountain, 2013; Zaza et al., 1998). Research has not investigated the physical, psychological and hearing health of a large sample of teachers to investigate the co-morbidity of PRPs.

Zaza (1993) states that musicians who have been affected by health problems are often motivated to learn about their problems and so represent a potentially powerful source of disseminating information about prevention; it is crucial that the information they disseminate is accurate. Recent research with university musicians indicates that respondents were moderately to very comfortable with the idea of discussing PRPs with injured musicians (Norton & Greasley, 2014). The phenomenon of advice on treatment being handed from musician to musician has been documented (Brandfonbrener, 2002; Guptill & Zaza, 2010; Surow & Lovetri, 2000). Zaza (1993) recommends that injured musicians are made aware that rehabilitation therapy for one musician may not be appropriate prevention for all and emphasises the importance of education as part of musicians' healthcare. The research outlined in this section indicates that instrumental/vocal teachers may well be affected by health problems; therefore, their potential roles as advocates of prevention may be magnified by virtue of them being both teachers, and possibly also musicians affected by PRPs.

Summary

The preceding sections have explored what is currently known about UK teachers' demographic characteristics, educational pathways, and performance-related problems. Relatively little empirical research has investigated these aspects in detail resulting in an incomplete understanding of those who are teaching instrumental and vocal lessons in the UK. More information about the personal characteristics of UK teachers will be valuable in terms of investigating influences on teachers' beliefs and behaviours and identifying arenas in which knowledge can be developed and exchanged between stakeholders in PAM and music education.

Listening to and speaking with instrumental and vocal teachers

“there is a great deal of wisdom in teacher lore”

(Jorgensen, 2008, p.56)

Jorgensen (2008) suggests that researchers should dignify teachers' wisdom by learning from it, collecting it, and systematizing it to generate theories that can be helpful to teachers. She details the myths, ideas, beliefs, values, attitudes, dispositions, habits, and actions that make up a tradition of practice and states that musicians are committed to “a central role in transforming those traditions as we also pass them on to the next generation” (Jorgensen, 2008, p.100); seeking the opinions of existing teachers aids the development of traditions of practice for the benefit of the next generation. Goodson (2003) states that teachers' beliefs should be regarded as building blocks for reform, rather than stumbling blocks, and suggests that it is necessary to listen to those at whom reforms are aimed; if teachers' beliefs are ignored then their centrality in the process may ‘act back’ against planned reforms destined initiatives “not to be high-profile successes but high-cost failures” (Goodson, 2003, p.62). Music education researchers have begun to recognise the value of teachers' perspectives in relation to aspects of one-to-one teaching in higher education (Burwell, 2005; Corkhill, 2005; Gaunt, 2011), routes into teaching (Baker, 2006; Mills, 2006), and the hallmarks of effective teaching (Mills & Smith, 2003). Daniel and Bowden (2013) suggest that accessing teachers' perspectives will “provide a broad picture and enable an informed and systematic approach to further research involving additional stakeholders” (p.247). However, Chambers compares teachers to “blackbird[s] singing in the dead of night” and poses the question “If everyone is singing their own song, who is listening?” (Chambers, 1991, p.354). Goodson adapts a quotation from Stenhouse (1977) to suggest that what researchers should aim to develop is “stories of action within theories of context” (Goodson, 2003, p.32).

Westerlund and Väkevä (2011) comment that “for a practicing arts educator, the relationship between theory and practice is often unproblematic: theory is considered to be irrelevant for the good practice” (p.37). They suggest that many musicians believe that knowing how to play/sing is more important than theoretical knowledge; beliefs such as these may explain why teachers have traditionally been reluctant to engage in research and to apply findings in practice. Goodson (2003) examines the relationship between university-based research (perceived as general, contextual and theoretical) and practice-centred teacher-research (perceived as particular, personal and practical); he describes a

divorce between scholars and those in the world of schooling whereby “scholars working in disciplinary modes normally develop their first allegiance to their home disciplines” (2003, p.9) and faculties of education and teachers “constitute a model of how to talk past each other” (2003, p.13). Yet, he suggests that theory and practice are not inevitably or intrinsically divorced and that “at its best, theory works back into informed and improved practice” (2003, p.16). New relationships between theory and practice are being forged in music education research; teachers are engaging in research as participants and researchers and results are being disseminated to a wider audience. Research in music education has advanced considerably and it is now entirely appropriate to expect the beliefs of teachers to be valued by all stakeholders. Research in the PAM field is less advanced in terms of valuing teachers’ perspectives; very little research has investigated teachers’ awareness and knowledge of PRPs and their existing health-related beliefs and behaviours. See Table 2.3 for a summary of studies that have investigated this topic; these studies are outlined in more detail below.

Table 2.3: Research investigating teachers’ awareness and knowledge of PRPs

Author(s)	Date	Country	Study design	Type of participants	# of Ps
Brandfonbrener	1989 /1990	USA	Survey	Instrumental teachers	1337
Quarrier	1995	USA	Survey	Instrumental and vocal teachers	63
Barrowcliffe	1999	USA	Survey	Instrumental teachers	95
Rogers	1999	USA	Survey & interviews	Piano teachers	190
Redmond & Tiernan	2001	USA	Survey	Piano teachers	149
Hildebrandt & Nübling	2004	Switzerland	Training & surveys	Instrumental teachers and their pupils	92 (26/66)
McKechnie & Jacobs	2011	USA	Survey	Piano pupils, parents and teachers	26 (10/10/6)
Atkins	2013	UK	Interviews	Those involved in occupational health at conservatoires	22
Gembris & Ebinger	2015	Germany	Survey	Instrumental pupils, parents and teachers	800 (399/367/34)

Brandfonbrener conducted a survey via the American Music Teachers’ National Association (MTNA) that investigated instrumental teachers’ personal health-related habits, experiences and attitudes. The survey was distributed to 3000 teachers⁵⁵ and

⁵⁵ Respondents were 1500 college level teachers and 1500 private teachers who were selected at random from members of MTNA. They were predominantly female (73%) ranging in age from 20 to over 60 years old with the majority between 31 and 40 years old (26%) or 41 and 50 years old (26%). The highest qualification for 44% of the sample was a master’s degree, with 27% holding a Bachelor of Arts as their highest degree and 21% having completed a doctorate. Most respondents (81%) were keyboard teachers,

usable responses were returned by 1337 teachers (45% response rate). Brandfonbrener (1989) highlights the crucial role that teachers play in preventing PRPs and reports respondents' basic demographic characteristics. Most respondents were prepared to work alongside HCPs to care for pupils' health, and a higher proportion of those who reported a PRI were in favour of working with medics.

Quarrier (1995) posted a 47-item survey designed by the researcher to 82 faculty members at a performance-focused music school and 35 at an education-focused music school in New York. Forty teachers from the performance-focused school and 23 from the education-focused school responded ($N=63$ ⁵⁶, 54% response rate). Most respondents (86%, $n=54$) reported that they had taught a student with a PRI but 47% ($n=30$) believed that fewer than 10% of their students had PRIs during the study. Fifty-one teachers (81%) reported that students had altered their activities as a result of a PRI. The majority of respondents agreed or strongly agreed that improper technique, poor posture, emotional stress, rapid repetitive movements, and over-practising are causes of PRI. The treatments perceived as highly effective by the largest groups of respondents were 'total body exercises' (57% of respondents), meditation/relaxation (46%), early medical attention (43%), and stretching (41%). Other treatment suggestions included complete or partial rest, reduced practising, massage, use of heat, ice and anti-inflammatories, dietary changes, changes to posture and technique, revision of practice habits and participation in Feldenkrais or Alexander Technique lessons. The researcher suggested that the question "Do you offer treatment advice to your students with injuries, or do you refer the student to someone else for help?" should be included in future research. Quarrier concludes that emphasis should be placed on educating music teachers about prevention of PRPs because "the music teacher has the central role of affecting a musician's career and guiding it to be pain-free" (1995, p.110).

Barrowcliffe (1999) explored the prevalence of PRIs among Canadian university teachers, their awareness of PRIs, and perception of the prevalence of PRI among their students. An 18-item questionnaire designed by the researcher was posted to 231 faculty members of accredited music programmes at Ontario universities. A total of 162 surveys

and only 6% of the sample were strings teachers, 6% wind teachers, 4% vocal teachers and less than 3% brass or percussion teachers. Most respondents had been teachers for at least 16 years (68%) with only 3% having taught for 5 or fewer years.

⁵⁶ The sample included 29 women and 34 men, the majority of whom ($N=56$) had been teaching for more than 10 years. Respondents taught keyboard ($n=20$), string ($n=16$), woodwind ($n=10$), brass ($n=6$), and percussion instruments ($n=3$). There were also eight vocal teachers.

were returned but 67 were excluded because the respondent had not been teaching performance music at tertiary level for over a year, did not have comprehensive English language skills, or was a vocal teacher; the final sample included 95 respondents (41% response rate).⁵⁷ The survey assessed respondents' knowledge of four conditions that the investigator defined as 'known to occur among musicians': carpal tunnel syndrome, focal dystonia, tendinitis, and thoracic outlet syndrome. Respondents were given a score out of two based on their attempt to define each condition. Most respondents reported that they were familiar with tendinitis and carpal tunnel syndrome, but most were not familiar with thoracic outlet syndrome or focal dystonia. Mean scores for all syndromes were less than 1 and they ranged from 0.95 for tendinitis down to 0.01 for focal dystonia. Respondents were then awarded a point for answering correctly whether five statements about musicians' health were true or false: see Table 2.4 for summary of results.

Table 2.4: Correct and incorrect answers to health-related questions (Barrowcliffe, 1999)

Statement topic	Answered correctly	Answered incorrectly	Did not answer
Prevalence of PRI among adult musicians	43	44	8
Injury among musicians compared with other workers	77	11	7
Existence of PRI in pre-tertiary musicians	89	3	3
PRI in different instrument families	91	2	2
Average duration of a PRI	68	16	11

Scores were combined to give a maximum total of 13 and the mean combined score for all respondents was 5.43. Twenty-percent of respondents scored 8 or more and the remaining 80% scored less than 8. Respondents who reported a history of PRI had higher scores compared with those who did not. Eighty percent of respondents indicated that they had taught a student who reported a PRI. Nearly all respondents ($n=90$) asked pupils to carry out a playing warm-up (e.g. scales or short practice passages) but only 40 asked their students to do a physical warm-up (e.g. stretching and breathing exercises). Respondents most commonly referred students with a problem to a physician ($n=46$), physiotherapist ($n=37$), massage therapist ($n=25$), or campus health services ($n=23$). Respondents also made referrals to other teachers, the local music clinic, a chiropractor, the Dean or Chair, and body awareness specialists. Only 20 respondents reported that

⁵⁷ Most respondents were male ($N=70$): this gender balance matched the population from which the sample was drawn. The mean age was 47.7 years ($SD=11.05$). Participants also taught at a conservatoire ($n=15$), in 'other' settings such as summer camps and masterclasses ($n=24$) and gave private lessons ($n=63$). Most participants played one instrument on a regular basis and some played two or more. Respondents played and taught keyboard ($n=25$), woodwind ($n=22$), string ($n=19$), brass ($n=19$), guitar ($n=5$) and percussion ($n=5$) instruments.

health-related information was available through their department (20 said that none was available and 54 were unsure). The type of information that was available consisted mainly of information shared by faculty members or workshops but some referred to library resources, referral lists and pamphlets. Respondents agreed that having access to PRI information would help teachers understand the potential for injury.

Rogers (1999) investigated the knowledge and practices of piano teachers⁵⁸ in the USA and Canada in relation to piano-related injuries (PiRIs). In total, 1000 surveys were distributed and 211 were returned but some responses were excluded because of faulty responses or lack of current teaching activities leaving 190 usable responses (19% response rate). Respondents were divided into three groups based on their responses to questions about potentially injurious behaviours: the Highly Aware (HA) group scored 17-20 (41%, $n=78$), the Aware (A) group scored 14-16 (39%, $n=74$), and the Less Aware (LA) group scored 13 or below (20%, $n=38$). A greater proportion of the HA group reported that they had read an article about health promotion, heard of RSI and attended a talk about health. There was no apparent relationship between teachers' or their pupils' experience of PiRI and the teacher's score, nor was there a significant correlation between teaching experience and score. Most of the HA group had studied at master's level whereas only 30% of the LA group had gained a bachelor's degree. Compared with other groups, a higher proportion of the HA group participated in a body awareness discipline. Twenty-two HA respondents were interviewed to investigate what had led to their increased awareness of PiRIs, their beliefs about risk factors, sources of information, and interest in learning more about health promotion. Respondents reported that their awareness of PiRIs had come from their own or colleagues' and pupils' experiences with PiRIs,⁵⁹ professional development opportunities,⁶⁰ participation in body awareness disciplines, reading about famous musicians' difficulties, and participation in the study. A summary of risk factors identified by interview participants' and recommended responses are shown in Table 2.5.

⁵⁸ Teachers were recruited from institutions in four states that were included in the Directory of Music Faculties in Colleges and Universities (total population=744). The survey was also distributed to independent piano teachers from the New York State Music Teachers' Association (total population=300).

⁵⁹ Seventeen interviewees had experienced tenderness, soreness, tingling or numbness related to piano-playing. Twelve indicated that personal experience had led to increased awareness. Eleven interviewees reported that their heightened awareness had come from seeing colleagues or students developing problems either from playing or typing.

⁶⁰ Nineteen interviewees had read articles about injuries in piano journals and 14 had attended workshops offered by organisations such as the MTNA and Performing Arts Medical Association (PAMA).

Table 2.5: Piano-related injuries: risk factors and recommendations (Rogers, 1999)

Risk factor	Summary of teachers' comments	Summary of teachers' recommendations
Tension	<ul style="list-style-type: none"> Some people experience more tension than others. Need to alleviate tension in wrists, forearms, elbows, shoulders and jaw Signs of tension include rigidity in joints, tight muscles and shallow breathing Tension can originate from how you view yourself as a player, demands from the teacher, imperfect memory, excitement or anxiousness, state of being. 	<ul style="list-style-type: none"> Relieve tension by developing awareness of body, including stretching, relaxation techniques, hands-on techniques, questioning skills and exercises Develop pupils' thinking and encourage communication between teacher & pupil. Mirroring the pupil Pupil journals Non-competitive and non-pressured learning environment Focus on breathing
Poor technique	<ul style="list-style-type: none"> Poor technique (poor coordination, isolated movement of fingers, lack of finger strength) Lack of technique basics (posture, sitting position and hand position) 	<ul style="list-style-type: none"> Learn how to use arm rotation and weight to assist smaller muscles of fingers, play with a coordinated technique. Teaching a good hand position (natural shape, not too high or low, naturally curve fingers, joints not collapsing) Emphasise proper posture (differing views on what this is). Very specific ideas on sitting position – some use an adjustable bench
Aspects of practice	<ul style="list-style-type: none"> Over-practicing Practising when in pain 	<ul style="list-style-type: none"> Take regular breaks. Suggested length of practice between breaks ranged from 15 minutes – 2 hours. Different views on what constitutes a break Pacing – compared with running a marathon. Daily practice as a prevention tool. No advice given regarding rehabilitation after time off over holiday or because of injury
Stress and time	<ul style="list-style-type: none"> Limited time to learn new repertoire Stress can affect tension 	<ul style="list-style-type: none"> Set effective goal and have realistic repertoire aims Be aware of other contributing stressors (e.g. school work)
Injurious movements	<ul style="list-style-type: none"> Awkward hand positions and movements Too much upper body movement Playing with one foot behind other or one off floor Unhealthy repetition 	<ul style="list-style-type: none"> Promote economy of motion Limit repetition and vary practice content Explore ways to put less strain on muscles and practice certain movements
Repertoire	<ul style="list-style-type: none"> Risks associated with a sudden jump in repertoire Wrong repertoire for hand size, or certain composers' work (e.g. Liszt, Brahms, Rachmaninoff, Scriabin, Prokofiev, Chopin, Bartok) 	<ul style="list-style-type: none"> Choose appropriate repertoire Simplify the score Practise a range of styles.
Miscellaneous	<ul style="list-style-type: none"> Teachers' personal qualities (e.g. being perfectionist) Memory problems General health and computer work 	<ul style="list-style-type: none"> Set realistic goals for memorization. Teach pupils how to memorize (including finger, harmonic, and structural memory). Use mental rehearsal Eat properly and take adequate rest and exercise

Interviewees in Rogers' study reported the kinds of treatment advice they gave; e.g. resting, reviewing practice habits, applying heat or ice, taking painkillers or anti-inflammatories, using an herbal heat wrap, applying homeopathic cream, or wearing a splint. Some referred pupils to doctors, physiotherapists, sports injury doctors, a joint musician-doctor team, or a local specialist clinic whereas others reported that they do not refer pupils to see HCPs, and were disparaging about doctors' inability to help musicians.

Redmond and Tiernan (2001) surveyed 42 piano teachers (selected from the membership of the Washington State Music Teachers Association) who had taught at least one high-school pupil in the preceding year. The aim was to explore teachers' health-related knowledge and practices in light of recently released information. Most respondents (90%, $n=38$) reported that they had received information regarding the prevention of PRIs, most commonly from colleagues ($n=23$), teachers ($n=22$), workshops ($n=22$), and articles ($n=19$). Other sources included books, HCPs,⁶¹ formal training, CAM, and the internet. Twenty-one respondents had sought help for a PRI, usually from teachers, colleagues or a workshop; only a handful had consulted HCPs. As learners, respondents had most commonly received information about playing techniques, body mechanics and posture. During a 30-minute lesson most respondents ($n=25$) reported spending 0-5 minutes discussing injury prevention with pupils, most commonly relating to body mechanics and posture, playing techniques, the importance of warming up, and choosing appropriate repertoire. Respondents were most likely to recommend adapting playing techniques or reviewing practice habits for pupils who reported pain; other suggestions included a break from practising, stretching, a longer warm-up period, relaxation techniques, and referral to an HCP. Most respondents ($n=37$) reported interest in learning more about injury prevention, and preferred to learn via newsletter articles, courses and the internet; the least commonly chosen method was talking to HCPs. Respondents were most interested in learning about strengthening and conditioning, safe practice guidelines, playing techniques, relaxation techniques, risk factors, body mechanics and posture, stress reduction, stretching or massage, and use of heat or cold to alleviate symptoms. The authors called for further research to include a wider range of teachers, explore what is happening regarding prevention of PRPs with younger pupils, and determine the short- and long-term effects of injury prevention initiatives.

⁶¹ Eleven respondents cited a doctor as the information source, whereas 12 referred to other HCPs such as sports injury specialists, physiotherapists, occupational therapists, massage therapists, and chiropractors.

Two studies were conducted at the Winterthur Zurich Conservatory and Music School (Hildebrandt & Nübling, 2004; Spahn et al., 2001). Their aim was to provide musicians with information designed to improve their ability to engage in primary prevention of PRPs and to evaluate the extent to which this training affected their teaching beliefs and behaviours. The first study (Spahn et al., 2001) offered 17 weekly 2-hour sessions to 22 conservatoire students.⁶² The overarching question associated with this course was “how can I, as a musician and a teacher, prevent health and playing problems?”. Results suggest that there were positive effects on participants’ psychological and physical health and their ability to cope with work requirements. The course was well received and participants reported an inclination to recommend it to others. Following the success of this course Hildebrandt and Nübling facilitated the delivery of a similar course focusing on psychomotor and sensori-motor problems to 13 teachers:⁶³ the primary purpose of this course was “to inspire teachers to incorporate physiologic content in their teaching activities” (2004, p. 62). Participants reported that their teaching style had improved as they gave more precise instructions than previously. Participants were volunteers and not randomly selected so sampling bias and motivational factors may have affected the results. Despite teacher-respondents’ enthusiastic and positive responses to the module the researchers were somewhat cautious in light of student-respondents only reporting perceived changes to certain aspects of their teachers’ behaviours. The researchers concluded that it is “perhaps not advisable to have unrealistic expectations about the effectiveness of musicophysiological training programs” (2004, p.69). Nevertheless, this research is the only published study to provide health-related information to teachers and evaluate the effects of accessing that information. The researchers described it as a starting point for further development and investigation; teachers voluntarily engaged with PAM-orientated information, perceived an improvement in their teaching, and were perceived to have changed at least to some extent by their pupils. A criticism of this study is the noticeable lack of participant voice and information regarding teachers’ existing health-related beliefs and behaviours. This research does not seek to ‘know’, ‘listen to’, or ‘speak with’ teachers – rather it is an experiment conducted ‘on’ teachers to determine the effectiveness of an externally applied intervention.

⁶² The test group included 15 female and seven male students ranging in age from 19 to 29 (mean=23.7). The sample included keyboard ($n=11$) shoulder strings (6), and woodwind (2) players, a vocalist, brass player and plucked strings player.

⁶³ The test group included 9 female and 5 male teachers, with a mean age of 36.1 years who taught keyboard ($n=5$) woodwind (3), bowed strings (2), trumpet (1), guitar (1) and saxophone (1).

Britsch (2005) conducted a study with 97 American musicians aged 9-18. Only 8% of these pupils had never experienced pain whilst playing and 38% reported experiencing problems during the study. Three-quarters also reported that they got “really nervous when performing” either as a soloist, in a group or in both situations. One of the questions that these musicians were asked was “what, if anything, has your private or school teacher said about your problem or injury prevention in general?”. Most pupils reported that they had not spoken to their teacher(s) about pain and none of the respondents suggested that their teacher(s) had discussed general injury prevention. The few who had spoken to their teacher(s) reported that their teacher’s advice had been to rest and/or change technique. The authors expressed surprise that so few pupils reported discussions concerning injury prevention when at least two of the four orchestral conductors involved had informed their pupils not to play if they were in pain. The authors comment that it is not possible to know whether teachers are not discussing injury prevention or whether their pupils are not reporting discussions that are happening. They conclude that future research should investigate teachers’ knowledge and promotion of injury prevention strategies.

McKechnie and Jacobs (2011) distributed researcher-designed surveys to young American piano pupils ($N=10$, aged 5-11 years), their parents ($N=10$) and a sample of piano teachers ($N=6$).⁶⁴ The research aimed to investigate the environmental and physical factors that contribute to the development of PRPs in young pianists. The teachers’ survey asked 19 questions that explored opinions regarding pupils’ sitting height, presence of a family member during lessons, preventing pain or injuries, and teachers’ beliefs about the importance of environmental factors, playing technique, injury prevention and health. All teachers rated seating height as very important; however, there was disagreement between respondents regarding whether pupils should sit higher, lower or level with the keyboard. All six teachers reported regularly asking pupils whether they are experiencing pain or discomfort and those who teach injured pupils reported spending the majority of those pupils’ lessons teaching correct fingering, slow playing and natural movements. Teachers suggested that appropriate health-related

⁶⁴ Teacher-respondents ranged from 27-44 years old. The most experienced respondent had been teaching for 25 years and the least experienced for four years. All teachers had a Master of Music in either Piano Performance or Pedagogy, and five had received a Doctor of Musical Arts. Lessons took place in pupils’ homes, teachers’ studios, or institutions. Teachers taught 3-33 pupils, with an average of 18 pupils per week. Teachers were purposively sampled; they were either colleagues of the researcher or local teachers recruited via email.

discussion topics include tension, movement, and relaxation techniques. All of the teachers said they spoke to parents about practice strategies and the importance of technique and rated these factors as very important. Appropriate lighting was the factor that teachers believed affected pupils' performance the most: three of the six teachers believed their pupils perform better with natural light, two reported that incorrect lighting can cause headaches and one stated that bad lighting affects pupils' posture. McKechnie and Jacobs claim that the findings "do not support a relationship between environment or physical factors and the presence of pain, discomfort or music related injuries in students" (p.303): this statement is undermined by limitations including small sample size and omission of pupil-respondents with PRIs. However, this research is the only example focusing on teachers' health-promoting beliefs and strategies published in English within the last decade and as such must be included in this review.

Atkins investigated conservatoire staff members' perspectives on occupational health and well-being provision, activities and resources, and future developments (Atkins, 2013). Atkins interviewed 22 staff members, including student services managers, student welfare practitioners, heads of faculty, heads of programme and instrumental teachers at eight of the nine UK conservatoires. Respondents emphasized the importance of one-to-one teaching and the central role that it plays in conservatoire education and the delivery of health-related information. One teacher commented that they "naturally approach health and wellbeing issues in every lesson" and other staff members stated that "teachers are often the first port of call for students with health problems" (p.246). Respondents raised issues relating to communication between teachers and the institution, limited contact hours and time in lessons, part-time teaching contracts, and an over-abundance of paperwork. A key strength of Atkins' research is that it seeks to 'listen to' and 'speak with' stakeholders in a particular musical environment; teachers' 'narratives of action' (Goodson, 1992) are represented clearly in the research within the researcher's 'genealogy of context'. The main limitations in relation to the present thesis are the small sample of teachers interviewed, and the focus on conservatoires at the expense of the plethora of lessons that take place elsewhere. To date, this is the only example of research that has sought UK teachers' opinions relating to health promotion.

A recent study with German music pupils, parents and teachers was conducted by the University of Paderborn (Gembris & Ebinger, 2015).⁶⁵ This research investigated the extent to which young musicians experience playing-related pain, the relationship between pain and demographic characteristics, coping strategies, and the extent to which parents and teachers are aware of pupils' pain. Questionnaires were distributed to 960 pupils and their parents and 70 teachers: 399 pupils, 367 parents and 34 teachers responded. Forty-one percent of pupils reported telling their teacher when they experience pain during practice. Over 50% of teachers were already aware that their pupils experience playing-related pain, but they localised pupils' pain in different regions compared with the pupils themselves. Teachers cited overuse and faulty posture as key risk factors and reported strategies for dealing with confirmed incidences of pain: e.g. posture change, relaxation exercises, instrument adaptation, taking a break, investigation of the cause, gymnastics and strengthening exercises, reviewing practice habits, discussing with parents and referring to a doctor. The researchers conclude that communication between pupils, parents and teachers must be improved. This study is the most recent to investigate health promotion in the context of instrumental/vocal teaching. It includes a relatively small sample of teachers but a key strength is that it investigates the situation from a range of perspectives. Unfortunately, the results are likely to be published in German; it would be of value for German and English-speaking researchers to collaborate in future to draw on research from both bibliographies.

⁶⁵ A summary of the key findings of this research were presented at the DGM Symposium on Music and Well-Being at the University of Oldenburg in September 2015. A summary of the slides (translated into English) was made available to the researcher by Heiner Gembris.

2.2 Summary and research questions

PRPs are common among musicians and can affect biological, psychological, sociological and financial health and well-being throughout their lifetimes. A wide range of disciplines are involved in the treatment of PRPs, and likewise should be involved in prevention of these conditions. The PAM field is now at a stage that efforts can be turned towards preventing PRPs, thereby enhancing performance and enjoyment of music for all. To be effective, health promotion programmes should involve all stakeholders in reducing musicians' exposure to known risk factors. Investigation of risk factors is under way and the views of some stakeholders are readily available; however, very little research has focused on instrumental/vocal teachers' health-related experiences, beliefs and behaviours despite their crucial role in primary and secondary prevention of PRPs.

Goodson argues that to contextualise teachers' voices attention should be given to their life experiences, lifestyle, life cycle, career stage and decisions, and critical incidents (see Goodson, 2008). In 1975, Lortie suggested that "Schooling is long on prescription, short on description" (1975, p.vii) as there were many publications instructing teachers on how they should behave and rarely any representing teachers' current behaviours. There is currently an imbalance between prescription and description in PAM which needs to be addressed for health promotion programmes to be effective.

Goodson (1981) suggested that to understand something as personal as teaching it is critical to know about the person that is doing the teaching: at present very little is known about UK instrumental and vocal teachers. Research is needed to investigate teachers' demographic characteristics: e.g. age, sex, teaching experience, professional identities, instrument(s), and genre of activities. It is imperative that research investigates music teachers' experiences as learners and professionals as their identities and careers are likely to influence the education and qualifications that they engage with. Consideration of teachers' educational pathways will identify existing platforms that could be used as knowledge exchange centres. Research needs to explore the performance-related health of teachers, both for their own sakes and to enable them to act as role models for healthy performance. To date, researchers in the UK have not explored instrumental/vocal teachers' health or the effect that their health has on their own, or their pupils', perceptions of healthcare and health promotion.

Teachers could contribute to primary and secondary prevention of PRPs, but there is a lack of research confirming the implementation and/or efficacy of such strategies. Very few studies have explored teachers' knowledge and beliefs about PRPs and only one has tested the efficacy of providing teachers with health-related information by assessing the effect it has on their teaching. A lack of research investigating and representing the views of instrumental/vocal teachers may be hampering their integration into health promotion initiatives. A prominent surgeon recently presented at a UK conference on the topic of 'Reciprocal Illumination' whereby interaction with those outside your immediate frame of reference can inspire change and innovation for all involved (Kneebone, 2015). Instead of working from a knowledge transfer model it would be appropriate to treat instrumental and vocal teachers as equal partners in the pursuit of health promotion for musicians by involving them in a process of knowledge exchange leading to reciprocal illumination.

The overall aim of this thesis was to investigate health promotion for musicians from the perspectives of instrumental and vocal teachers. The thesis addresses the following research questions (RQs):

1. What were the characteristics of those delivering instrumental and vocal teaching in the UK in terms of their demographic characteristics, educational pathways, and performance-related health?
2. To what extent did teachers report promoting their pupils' health? How did they report doing so?
3. What influenced teachers' health-promoting behaviours?
4. To what extent would teachers like to access health-related information so as to promote their own and their pupils' health more effectively? What would they like to learn and how?

These questions are explored via one main study (a survey) and three ancillary studies (an interview study and two intervention studies). The main aims of the research reported in the thesis are shown in Table 2.6 alongside the objectives of the survey study and ancillary studies. It is beyond the scope of this thesis to provide a full analysis and discussion of the findings of the three ancillary studies but further insights gained from the results of those studies are included where relevant.

Table 2.6: Thesis research aims and objectives of studies

Thesis research aims	Survey study objectives	Ancillary studies objectives
1. Identify the demographic characteristics of a large sample of UK instrumental and vocal teachers, and investigate their educational pathways and performance-related health.	1. Identify the demographic characteristics of a large sample of UK instrumental and vocal teachers. 2. Investigate teachers' educational pathways, performing experience, training and qualifications. 3. Explore the extent to which teachers are affected by PRPs.	Interview study objective (O) 1: Explore teachers' identity, education, qualifications, performance-related health and development of teaching strategies in detail. Discuss to what extent these factors affect their teaching.
2. Investigate the extent to which UK instrumental and vocal teachers are currently promoting their pupils' health, and how they report doing so.	4. Investigate the extent to which UK instrumental and vocal teachers are currently promoting their pupils' health. 5. Identify teachers' existing strategies for promoting pupils' health.	Interview study O2. Investigate teachers' perceptions of health promotion and PRPs and their current involvement of this in lessons. Interview study O3. Discuss the idea of a team approach to health promotion and teachers' existing or potential roles in this team.
3. Investigate what influences teachers' health-promoting behaviours.	6. Investigate whether teachers believe they are responsible for pupils' health and well-being. 7. Explore where teachers have gained information about health promotion and PRPs from.	Interview study O4. Explore to what extent interviewees believe that teachers are responsible for pupils' health and well-being, and who else is, or should be, involved. Interview study O5. Discuss the concept of a collaborative approach to health promotion for musicians and the advantages and challenges associated with this approach.
4. Explore the extent to which teachers would like to learn more about health promotion to promote their own and their pupils' health more effectively. Investigate what they would like to learn, and how.	8. Investigate whether teachers would like to learn more about health promotion, for their own and/or their pupils' benefit. 9. Investigate where, when, and how teachers would like to learn about health promotion in future.	Book evaluation objective: Provide teachers and HCPs with access to books containing health-related information to investigate participants' experiences with this form of learning and views on the academic rigour, accessibility and practicality of information in the books for use by teachers in instrumental/vocal lessons. CPD event objective: Provide teachers and HCPs with access to a training event that involves lectures, workshops, resources, and discussion sessions and investigate the effect that attendance at the event has on health-related knowledge and relevant beliefs and behaviours.

2.3 Research framework

2.3.1 Rationale for methods

At a broad level, the current research is situated within a pragmatic philosophical framework. The development of pragmatism (sometimes referred to as 'Pragmatism') is most commonly attributed to Peirce (1905), and has been described as follows:

Pragmatism addresses the concerns of both qualitative and quantitative researchers by pointing out that all human inquiry involves imagination and interpretation, intentions and values but must also necessarily be grounded in empirical, embodied experience (Yardley & Bishop, 2010, p.355)

Pragmatism has been suggested as a logical foundation for mixed methods research (Fishman, 1999; Tashakkori & Teddlie, 1998) and was used as a philosophical basis for this research as the research questions can only be answered fully using a mixture of research methods. This research is underpinned by the belief that individuals experience and interpret phenomena subjectively, but phenomena can exist outside the attitudes and ideas of an individual: this belief is positioned on a spectrum between objective positivism and subjective idealism. This research aligns most closely with a contextualist epistemology, which acknowledges that individuals make meaning of their experiences and the broader social context that influences those meanings, whilst retaining focus on the material in question and other limits of 'reality' (see Braun & Clarke, 2006). Methods were combined to improve data accuracy, produce a more complete picture of the situation, and aid sampling for subsequent studies (Descombe, 2008). Yardley and Bishop (2010) liken the use of mixed research methods to the complementary nature of a map (quantitative) and video (qualitative) of a city:

If these were the only sources of information available then both would be vital to a decision as to whether to visit the city. Only the video (despite being subjective and selective) could give an impression of what the city would actually be like to visit, but without the map it would be impossible to tell how to get there and how long it would take to do so. (Yardley & Bishop, 2010, p.359)

Mixed methods research involves the concurrent and/or sequential collection and analysis of quantitative and qualitative data, where the types of data are prioritised equally or unequally, and methods are integrated at one or more stages in the process of the research (Creswell et al., 2003). The current research involved two sequential phases, namely a large-scale survey study followed by three ancillary studies. Both phases were conducted using a concurrent triangulation design, described by Creswell et al. (2003) as research that uses different methods to confirm, cross-validate, or corroborate findings.

Equal priority was given to quantitative and qualitative data, which were analysed, interpreted and presented in a convergent manner (see Figure 2.1):

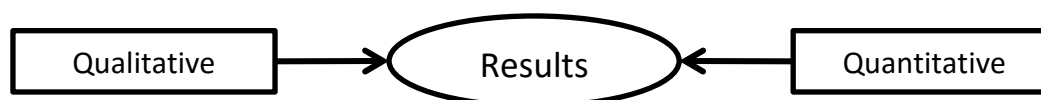


Figure 2.1: Convergent model of research: qualitative and quantitative methods are used equally and in parallel (Steckler et al., 1992)

Creswell et al. (2003) state that quantitative and qualitative methods may be integrated within research questions, during data collection, data analysis, and/or interpretation of the data. In the current research the survey study involved mixed methods at all stages: quantitative and qualitative research questions were presented, open-ended questions were used on a predominantly structured survey, qualitative data were transformed into quantitative items, and results were examined concurrently to examine their convergence. This approach was used to triangulate data from different sources. The ancillary studies were carried out during the second sequential phase of research: an interview study and two intervention studies. The interview study included qualitative questions and data collection, but some results were quantified during analysis and findings were compared with survey data to assess convergence of the findings. The intervention studies included quantitative and qualitative research questions, data collection, analysis and interpretation of results. In addition, data from each of the intervention studies were interpreted in relation to each other and the preceding survey study.

2.3.2 Data analysis

Quantitative data in this research were analysed using inferential and descriptive statistics. The software package *SPSS Statistics* was used with reference to a supplementary text written by Field (2009). Qualitative data in this study were analysed thematically according to the principles laid out by Braun and Clarke (2006): immersion in relevant data sets, generation of initial codes, searching for and reviewing themes, defining and naming themes and producing a concise, coherent and logical report. Illustrative quotations⁶⁶ are provided to support my claims and avoid the pitfall of 'anecdotalism'. Creswell et al. (2003) state that analysis in a concurrent research design requires some transformation of data to make it possible to integrate and compare

⁶⁶ The term 'illustrative quotation' is used to indicate that quotations shown in text have been chosen to illustrate responses from a larger number of respondents. Illustrative quotations were chosen based on their clarity and scope in order to illustrate the broader theme using only a selected number of quotations.

dissimilar results. In this research quasi-statistics⁶⁷ have been used to quantify qualitative data, compare with quantitative data and investigate the interaction between quantitative and qualitative responses.

Qualitative data collected during the survey study and intervention studies were analysed using a semantic, inductive, contextualist approach: i.e. themes were identified within the surface meanings of the data and strongly linked to the data, and analysis responded to the assumption that, in most cases, language reflects and enables us to articulate meanings and experiences. The process of coding did not involve fitting data into a pre-existing framework; although I had reviewed literature prior to analysis very little previous research has explored the topics that were under investigation in this research. This thesis presents a rich thematic description of the entirety of these data sets with reference to the predominant themes: Braun and Clarke (2006) suggest that this approach is useful when investigating an under-researched area with participants whose views are not known. Interview data included in this thesis were analysed using a semantic, *theoretical*, contextualist approach. Analysis was driven by my theoretical interest in a specific area and I coded the data according to a pre-existing coding frame: e.g. identifying potential team members in the PAM literature, nominating the teacher as a health promotion advocate, and asking questions about preparation for this role. The thesis presents a detailed account of a particular group of themes from interview data rather than a rich thematic description of the entire data set.

2.3.3 Reflexivity

Robson (2002) states that researchers should acknowledge their own identity, values and history as these factors will affect their research design and outcomes. Below is a summary of my personal situation, presented alongside relevant research and personal reflections on the various factors that influenced my research. Firstly, I am a musician; this identity involves a number of sub-identities including ‘music psychology researcher’, ‘teacher’, ‘violinist’, and ‘student’ which have fluctuated during my lifetime but at the time of submission my strongest identity is that of a music psychology researcher. Secondly, I am a musician who has experienced PRPs (see Section 1.1 for more details). In

⁶⁷ Maxwell (2009) describes quasi-statistics as simple numerical results that can be readily derived from the data. They allow the researcher and consumer to assess the amount of evidence that relates to a particular conclusion. Maxwell asserts that “any claim that a particular phenomenon is typical, rare, or prevalent in the setting or population studied is an inherently quantitative claim and requires some quantitative support” (p.245).

addition, I engage in activities that are enhanced by my musical identities but do not involve musical activities; the foremost of these is my work with BAPAM as the manager of a health promotion initiative called the Student Advocate Scheme.⁶⁸ My 'insider' perspective could be perceived as a weakness as a researcher with an 'outsider' perspective might notice and question cultural phenomena that I take for granted. Furthermore, my experiences may lead me to misunderstand a participant's responses, see participants in my own image, or seek answers that support my preconceived notions (Cohen, Manion, & Morrison, 1994). I was particularly aware of this while conducting interviews so I took care to clarify my understanding of interviewees' comments and confront my assumptions. My on-going engagement with participants (i.e. throughout the survey, interview, and intervention studies) allowed me to build a more thorough understanding of participants' comments. It may be easier for an insider to access networks in the target environment – e.g., I was more aware of relevant groups and readily welcomed by their managers and members – which aids recruitment and dissemination of research. Previous researchers (e.g. Gaunt, 2011) have had positive results when conducting research from an 'insider perspective' with UK teachers.

Experiences that I have shared with participants (e.g. as a pupil, teacher, and musician who has experienced PRPs) helped me to construct research instruments that were relevant and easy to answer, build rapport with participants, and interpret responses. For example, I designed survey questions to allow respondents to give full and honest answers (e.g. by always including 'Other' boxes and allowing them the opportunity to expand on their quantitative answers in text boxes). This decision was influenced by my experiences as a musician and research participant to a greater extent than my experiences as a researcher; in most cases it would have been easier to analyse simpler answer formats but that would have made it harder for respondents to complete, and potentially frustrating when their responses could not accurately reflect their experiences. In addition to using my own musical experiences to guide the design of my research materials I also pilot tested them to ensure that they were acceptable to other music education specialists.

My desire for materials to be accessible and valued by musicians was reflected in my choice of methods; I gathered data using surveys and interviews but also incorporated

⁶⁸ More information about the BAPAM Student Advocate Scheme can be found at www.bapam.org.uk/sas. I piloted, developed and now manage the scheme in partnership with BAPAM staff.

applied practical methods to mimic ‘real-world’ situations. My Master’s degree focused on the applications of music psychology research and that is an important part of my grounding in the discipline. My opinions on the importance of achieving a balance between research and practice have influenced my choice of research design, and my interpretation and presentation of results (for example, the inclusion of a ‘Future Directions’ section in this thesis, see Section 7.4).

Throughout my analysis, interpretation, and presentation of results I have tried to ensure that my experiences would not unduly bias the report that I constructed. Wherever possible I sought diverse and unusual results and represented them appropriately. I have also given many examples of the quotations used to construct themes to ensure that a reader can verify my interpretation of the responses. Where I have excluded material the decision was based on presenting a complete picture without unnecessary duplication of results; for example, I excluded results relating to survey questions 9, 10, 37, and 46 as the responses that were given had been covered elsewhere. For a similar reason I chose not to include interview study data that had been covered as part of the survey study; instead I focused on results that had not been previously explored in detail (i.e. responses relating to secondary prevention and a collaborative team approach to health promotion).

The reputation that practitioners may ascribe to educational research (e.g. irrelevant, secretive and ego-centric) can stem from “the establishment of an impersonal relationship with the researched” (Goodson, 1989, p.152). This impersonal relationship has been attributed to a quest for ‘objectivity’ which Goodson describes as a distorted concept. An impersonal researcher may only receive a subject’s chosen presentation of themselves to their idea of a stereotypical researcher, thereby losing vital parts of the picture. I have considered my place in this research and endeavoured to avoid ‘distorted objectivity’ in favour of establishing an appropriate relationship with my participants. While it has been a challenge to manage the different aspects of my identity (i.e. researcher, teacher, and performer), I feel that by doing so I have come to a greater understanding of the topic than I would have had I not explored those different angles. My commitment to this area of research began with an event of personal significance but has been reinforced by training in music psychology, on-going professional involvement in the fields of music education and PAM, and a review of relevant literature.

2.3.4 Ethical considerations

The current research adhered to the four guiding principles of ethical research as detailed below with reference to the guidelines that accompany these principles (BPS *Code of human research ethics*, 2010). Ethical approval was granted by the Royal Northern College of Music (RNCM) and Conservatoires UK Research Ethics Councils (see Appendix A).

Respect for the autonomy and dignity of persons

The research was designed so that anyone who fulfilled the inclusion criteria would be able to participate.⁶⁹ The nature of the research was explained prior to data collection and did not involve participants who were incapable of giving informed consent.

Additional information and contact details were requested to facilitate participants' engagement in other studies but this information was not linked to responses.

Respondents to the survey and intervention studies were given the option of not responding to questions and were able to stop completing the surveys at any point.

Interviewees were given the right to withdraw their data at any time, the opportunity to read their transcript and remove sections, and were assured that their responses would be unidentifiable.

Scientific value

This research contributes to our understanding of UK instrumental and vocal teachers and their current and potential roles in health promotion. Steps were taken to ensure that the research is of a high quality so that the considerable resources committed to it are not wasted.

Social responsibility

This research may help to reduce the prevalence of PRPs, enhance musicians' enjoyment of their craft, and improve the longevity of their involvement in musical activities. I have attended numerous events to facilitate critical discussion of my work with researchers and practitioners from music education and PAM fields. I considered my research from the standpoint of my participants and identified potential risks to their psychological well-being, mental health, personal values, and dignity.

Maximising benefit

This research has the potential to benefit those who engaged directly in the research and others within the wider musical population. Researchers have reported that participants

⁶⁹ One teacher contacted the researcher to indicate that they were partially sighted and wished to participate: the researcher proposed a phone or face-to-face interview but the teacher was unable to participate because of other commitments.

enjoyed their involvement in similar research, found it cathartic, and felt it contributed to their personal and professional activities (e.g. Baker, 2005; Hildebrandt & Nübling, 2004; Spahn et al., 2001). Conversely, Gaunt (2008) reported that it can be difficult to gain access to instrumental/vocal teaching environments and Rosset i Llobet (2004) suggested that researchers may encounter resistance if research is perceived as a professional intrusion. There were very few negative comments from those who participated in this research and many participants reported that they had enjoyed being involved. Participants were offered the opportunity to engage in further research, access relevant resources, attend various events, and have discussions with myself and other peers. My personal and professional activities enable me to disseminate and apply the results of my research alongside that of others and following completion of the PhD I intend to use the results of this research to inform the development of health promotion programmes for musicians (see Section 7.4).

Minimising harm

A section of the interview schedule related to participants' personal experiences of PRPs. The BPS *Code of human research ethics* (2010) reported that:

a researcher may obtain evidence suggesting the existence of psychological or physical problems of which a participant may appear to be unaware...where there is an identified risk of such evidence emerging it is good practice to prepare a protocol in advance and establish an appropriate referral route. (BPS, 2010, p. 23)

Brinkmann and Kvale (2010) identified the risk that participants in qualitative research can view interviews as quasi-therapeutic. I ensured that participants were aware of my status as a musician (not an HCP) and would not therefore expect me to offer medical assistance. Shared experiences and rapport can persuade interviewees to disclose personal experiences and emotions that they may later regret (Brinkmann & Kvale, 2010). My personal experiences enabled me to reflect on the possible consequences of certain revelations and my research training and ethical research procedures made it possible to deal with sensitive situations. For example, when an interview participant confided in me I listened sensitively, reminded them that I am not medically qualified, suggested that they may like to seek advice from BAPAM, and confirmed that they were willing for their comments to be included. The perception of power surrounding a researcher's position led some participants to believe that I was an expert teacher and/or PAM specialist: in this situation I highlighted my status as a musician and relatively inexperienced teacher, emphasised that I am not medically trained, and reiterated that my interest in their

experiences made them the 'expert'. Teachers have expressed anxiety relating to the disclosure of privately developed practices, fearing humiliation if others disagree with their ideas (Purser, 2005). I made it clear that I was interested in participants' beliefs and behaviours with a view to understanding the current situation rather than evaluating their teaching practice. Given the close-knit nature of the music business and the relatively small number of people involved in PAM in the UK it was also likely that interviewees would reveal information about people that I know or work with. In this situation I allowed interviewees to speak candidly, treated all information revealed about others as confidential, and ensured that such information was unidentifiable in the thesis.

Debriefing Process

Participants were given the opportunity to ask me about the aims of the research, their participation, and the intended outcomes. I provided an e-newsletter and maintained contact with participants who reported that they would like to stay in touch with me. I was aware that by opening discussion about PRPs and health promotion with teachers I was likely to be viewed as a source of information. Measor and Sikes (1992) suggest that researchers should be realistic and accept that they cannot remain as detached as might be perceived as 'ideal'. Researchers have a basic human responsibility and should not initiate situations that they are not prepared to see through to their potential conclusion. My relationship with participants did not stop when their involvement in the research ceased: when contacted for advice I provided participants with information that was within my boundaries of expertise, and direction to qualified sources of further advice where appropriate.

2.3.5 Summary of chapter

In this chapter I have reviewed literature relating to four PRPs and how these and other similar conditions could be prevented. The rationale behind the research was summarised, four research questions were proposed, and the aims and objectives of the main study and three ancillary studies identified. In addition I have described key aspects of the research framework including a rationale for the methods and data analysis used in this research and consideration of issues relating to reflexivity and ethics. In the next chapter I will present the methods and relevant results from the main survey study to address the first research question.

Chapter 3: RQ1 Methods, Results, and Discussion

This chapter addresses the first research question:

What were the characteristics of those delivering instrumental and vocal teaching in the UK in terms of their demographic characteristics, educational pathways, and performance-related health?

All of the information presented in this chapter relates to the survey study: survey study methods are outlined in Section 3.1, results relating to RQ1 are presented in Section 3.2 and discussed in Section 3.3 in relation to reference to previous literature.

3.1 Survey study method

3.1.1 Materials

The survey included 50 questions with a variety of answer formats (closed, Likert-scale, matrix and open-ended text-boxes); Table 3.1 summarises the information and questions that were included on each survey page (see Appendix B for a full copy of the survey).

Table 3.1: Topics included in the survey study

	Survey page	Topics
Page 1	Survey introduction	Research information, inclusion criteria, and informed consent
	Demographic characteristics and educational pathways	Sex, age, and location
		Professional identity
		Primary teaching instrument
		Teaching experience
		Genre of musical activities
		Pupils' age group(s)
		Learning environments and performing experience
Page 2	Experience of PRPs	Training and qualifications
		Physical symptoms
		Music performance anxiety
		Hearing problems
Page 3	Health education in instrumental/vocal lessons	Advice and/or treatment for PRPs
		Beliefs about responsibility for pupils' health and well-being
Page 4	Health education and support for musicians	Existing health-related behaviours
		Sources of health-related information
		Awareness of resources and organisations
	Survey conclusion	Interest in further training
		Invitation to participate in future research and attend a CPD event

I developed the survey based on previous literature and revision of a pilot study conducted during my master's degree (Norton, 2012).⁷⁰ The revised survey was piloted

⁷⁰ This prior study involved 75 respondents (male=33, female=42) ranging in age from 19-61 years (mean=38.28, SD=12.92) who taught instrumental or vocal lessons in England at the time of the research.

with a small group of teachers, researchers, and music education advisors to ensure that it was accessible and easy to complete. All questions were compulsory but respondents had the option to choose 'none', 'not applicable', or 'prefer not to answer' or use an 'other' open-ended text box to give their response. The first survey page sought information about respondents' sex, age, teaching location, professional identity, genre of musical activities, primary teaching instrument, teaching experience, and pupils' age groups. On the second survey page definitions and questions from previous studies were used to make it easier to compare findings of the present study with earlier research. For example, Zaza et al. (1998) took advice from 27 musicians and three HCPs in Canada when developing their definition of playing-related musculoskeletal disorders. Their definition was adapted for use with instrumental *and* vocal teachers and the question was split to determine whether respondents were referring to a history of symptoms or symptoms they were experiencing at the time of the study (current symptoms):

Have you ever experienced/Do you currently experience pain, weakness, lack of control, numbness, tingling, or other symptoms that interfere with your ability to play your instrument at the level you are accustomed to?

Similarly, Kenny's (2009) definition of MPA was adapted to make it shorter and easier to understand, and the resulting question divided into two:

Have you ever experienced/Do you currently experience a marked and persistent anxious apprehension related to musical performance (these symptoms are often referred to as music performance anxiety)? (This could include physical symptoms or symptoms that affect your mood, thoughts or behaviour. Symptoms may not necessarily impair the quality of your performance.)

The hearing problem section related to noise-induced hearing loss (NIHL) but respondents were allowed to indicate whether they had experienced non-noise-related hearing problems. A supplementary note informed participants that two common symptoms of NIHL are the inability to hear certain frequencies, and tinnitus.⁷¹ The third survey page included two Likert scales, a multiple-choice response, and four open-ended text boxes allowing respondents to describe their current health-related behaviours in detail. The fourth survey page included a Likert scale, single- and multiple-choice questions, and open-ended text boxes to elicit further information about sources of information and preferences for future learning.

⁷¹ The American Tinnitus Association describes tinnitus as 'the perception of sound in the ears or head where no external source is present' (see <https://www.ata.org/understanding-facts>).

3.1.2 Procedure

I developed the survey using a premium account of the online survey software 'eSurveysPro'. Recruitment began in September 2013 and continued until February 2014 when the target of approximately 500 respondents was reached.⁷² Recruitment was conducted purposively by contacting individual teachers, and organisations whose members were directly or indirectly involved in teaching.⁷³ Facebook and Twitter were used to invite teachers to participate and I presented at two events (Yorkshire Music Education Conference and The Music Education Expo) where I invited audience members to participate. All respondents were encouraged to pass the survey on to other teachers; snowball sampling is a useful tool for recruiting hard-to-reach populations (Atkinson & Flint, 2001; Hendricks, Blanken, & Adriaans, 1992). Reminder emails were sent to original contact addresses from the end of November 2013 through to January 2014.

3.1.3 Respondents

Thirteen respondents were excluded because they were not teaching at least one instrumental/vocal lesson per week in the UK at the time of the study. There were 496 eligible respondents, of whom 408 completed all questions and 265 were willing to be contacted about future research. Most respondents taught solely in England (87.6%, $n=440$), Scotland (3.6%, 18), Wales (1.8%, 9), or Northern Ireland (0.8%, 4); a further 25 respondents taught in a combination of these locations. There were more females (69.2%, $n=343$) than males (30.0%, $n=149$) and four preferred not to disclose (PND) their sex. Figure 3.1 shows respondents' age; most were aged between 36 and 65 years.

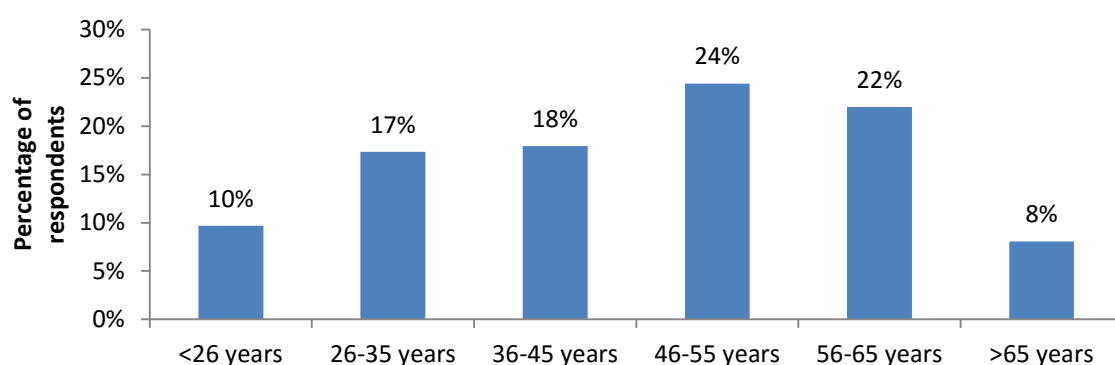


Figure 3.1: Respondents' age ($N=493$). Range from 18 to 90 years (mean=46.24, $SD=14.13$, median=48, mode=56). *Note:* Three respondents preferred not to disclose their age.

⁷² The target of 500 respondents was chosen as a realistic figure that would represent a large group of teachers and allow statistical comparison of sub-populations.

⁷³ Including organisations such as the MU and ISM, instrument-specific societies, tuition websites, music education groups and publications, health organisations (e.g. BAPAM, Help Musicians UK), music hubs, independent music schools, university music departments, senior and junior conservatoires, and orchestras.

3.1.4 Data analysis

Most survey questions yielded categorical data that I analysed using descriptive statistics. Some data were recoded; e.g. respondents were not asked to indicate the highest level of qualification that they had achieved according to the Regulated Qualifications Framework (RQF) but their responses were recoded based on RQF criteria. Associations between variables were tested using chi-square analyses to build an understanding of how respondents' demographic characteristics interacted, and how those characteristics related to their responses to other questions. Bonferroni corrections were applied when multiple tests were used. Where assumptions of chi-square tests were violated (e.g. when sub-populations were so small that more than 20% of expected cell frequencies were less than 5) data were recoded into larger groups or the smallest groups were excluded. Responses to Likert scales were analysed using non-parametric tests: i.e. the Mann-Whitney test and Kruskal-Wallis test for independent groups and the Wilcoxon signed-rank test and Friedman's ANOVA for related groups.

I analysed open-ended responses thematically following the principles outlined by Braun and Clarke (2006): see Section 2.3.2 for more details. Key themes are illustrated using thematic maps, and quotations are provided to enhance transparency and maintain the presence of respondents' voices (Braun & Clarke, 2006). Longer illustrative quotations are shown in double quotation marks and identified by respondent number: e.g. (R155) refers to survey respondent 155. Respondent information (number, age, sex, identity, instrument, experience, genre, pupil age group(s), highest RCF level, and history of PRPs) is shown in Appendix C. Short illustrative quotations that depict phrases used by a group of respondents are shown using single quotation marks. Thematic analysis is usually conducted with a small sample whereas in this study up to 496 respondents provided responses that were analysed thematically; therefore, to provide enough data to illustrate themes, tables of quotations are included where necessary.

Thematic maps have been used to identify key themes relating to survey study data. With the exception of maps depicting statistical associations (Figures 3.1, 3.26, and 5.15) these maps share the following common features:

1. If responses relate to a particular question a rectangular blue box is used, the question number is given in bold, and the total number of responses indicated alongside the subject of the question.

2. Themes are represented using oval⁷⁴ bubbles that are colour-coded according to level: Highest order themes are shown in purple, second-order themes in orange, third-order themes in light blue, and fourth-order in light green. Additional colours are used for clarity where appropriate.
3. Connections between themes and their sub-themes are shown using solid lines. Where themes are associated (non-statistically) this is indicated using dashed lines, some associations are further explained by sub-themes.
4. Some themes are shown in bold; this indicates that responses relating to this theme were particularly prevalent amongst responses included in the analysis.

Key features of maps depicting statistical associations are outlined in Section 3.2.3.

3.2 Results

3.2.1 Demographic characteristics

Professional identity

Respondents were asked to choose the label that most accurately described their professional identity at the time of the study (see Figure 3.2). The largest group was instrumental/vocal teachers followed by ‘musicians who perform and teach’ (henceforth ‘musicians’); some respondents prioritised their teaching (henceforth ‘teachers-who-perform’) and others their performance (henceforth ‘performers-who-teach’). In addition, there were 11 classroom music teachers, eight student musicians, and 26 who used the ‘other’ box to describe their identity (henceforth ‘other’).⁷⁵ Chi-square analyses involving identity only included respondents who identified as instrumental/vocal teachers, musicians, teachers-who-perform or performers-who-teach.

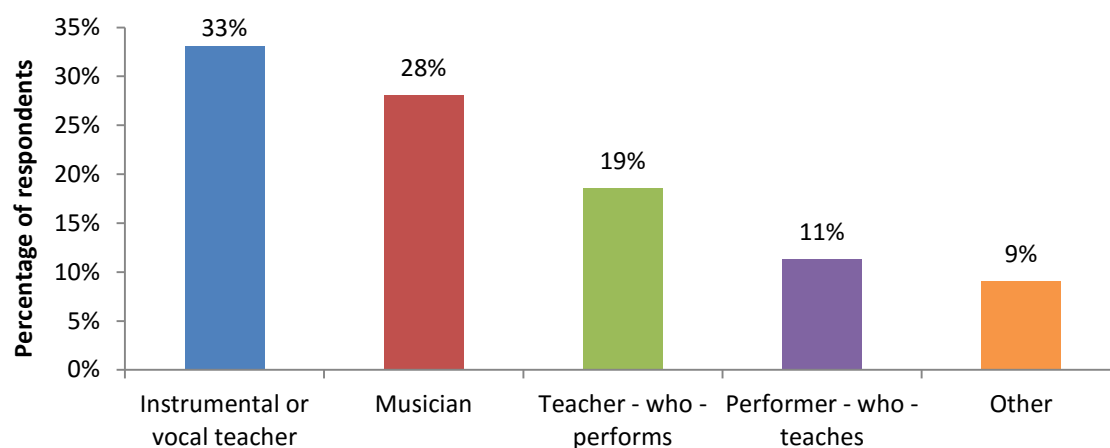


Figure 3.2: Respondents’ self-reported professional identity (N=496)

⁷⁴ With the exception of Figures 4.8 and 6.5 in which some themes are shown using rectangular boxes to aid presentation.

⁷⁵ Those who chose ‘Other’ on the survey included a composer, examiner, lecturer, music therapist, community musician, accompanist, Kodaly teacher, Dalcroze Eurhythmics practitioner, session musician, combinations of the above options or simply ‘variable depending on work coming in’.

Sex and identity were significantly associated ($\chi^2(3)=22.873, p<.001$): a greater proportion of females self-identified as instrumental/vocal teachers and teachers-who-perform, and a greater proportion of males self-identified as musicians and performers-who-teach. Choice of identity varied across age groups: see Figure 3.3.

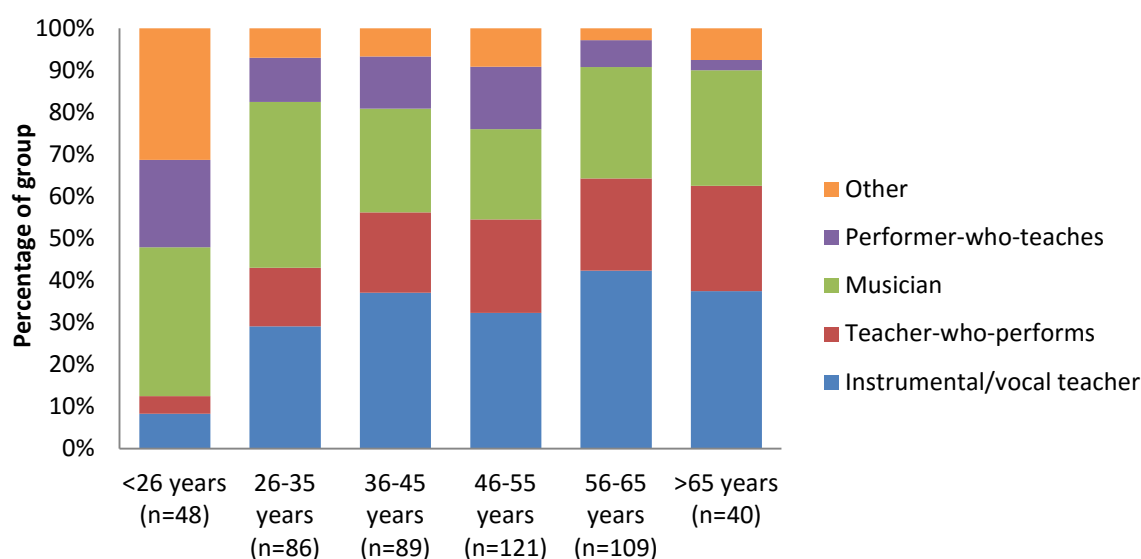


Figure 3.3: Professional identity of respondents in different age groups. *Note:* The total number of respondents in each group is shown under the group label.

Primary teaching instrument group

Respondents indicated which group their primary teaching instrument belonged to;⁷⁶ responses are illustrated in Figure 3.4. Sex and instrument were significantly associated ($\chi^2(7)=75.875, p<.001$); vocal and bowed strings teachers were more likely to be female, and plucked strings, brass and percussion teachers were more likely to be male.

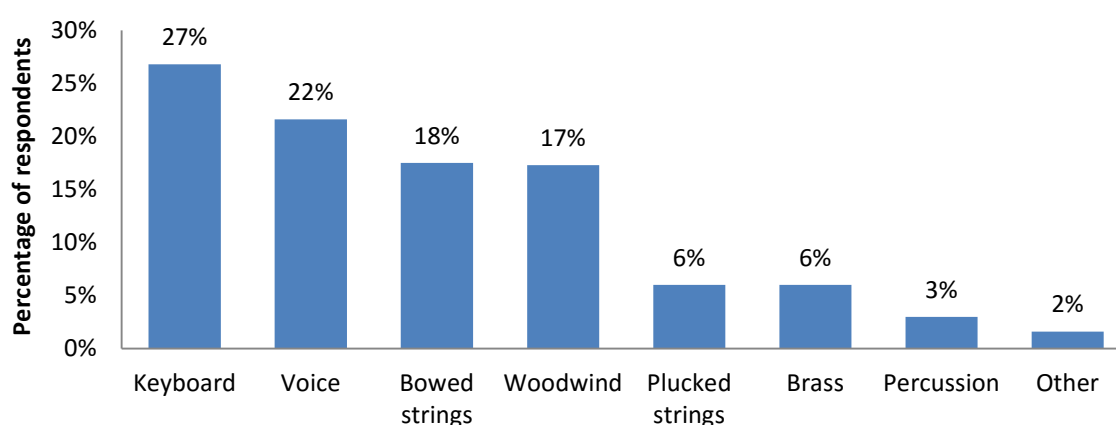


Figure 3.4: Respondents' primary teaching instrument group ($N=496$). *Note:* 'Bowed strings' refers to orchestral string instruments (i.e. violin, viola, 'cello, double bass) and 'plucked strings' refers to instruments such as the guitar, harp, banjo etc.

⁷⁶ This relates to the instrument (including voice) that respondents reported teaching most frequently. Henceforth this is referred to as 'instrument'.

Teaching experience

Respondents' teaching experience ranged from less than a year to 75 years. Most respondents had been teaching for up to 10 years (28.0%, $n=139$) or 11-20 years (25.8%, $n=128$). An additional 18.9% ($n=94$) had been teaching for 21-30 years and 18.5% ($n=92$) for 31-40 years. Only 8.7% ($n=43$) had been teaching for more than 40 years.

Genre of musical activities

Most respondents (93.3%, $n=463$) were involved with⁷⁷ classical music activities (henceforth 'classical activities'); a much smaller proportion were involved with contemporary (35.9%, $n=178$), jazz (31.0%, $n=154$), folk (22.6%, $n=112$), world (13.9%, $n=69$) and/or musical theatre activities (7.3%, $n=36$). Females were more likely to be involved with classical activities than males ($\chi^2(1)=18.636$, $p<.001$). Of the respondents who were involved with multiple genres there were significant associations between being involved in combinations of jazz, contemporary, world, folk, and/or musical theatre activities (see Table 3.2): reported involvement with activities in one or more of these genres is henceforth referred to as 'other-than-classical activities'.⁷⁸

Table 3.2: Participation in combinations of other-than-classical activities

Associated genres	Chi-square result
Jazz and contemporary	$\chi^2(1)=58.279$, $p<.001$
World and jazz	$\chi^2(1)=55.542$, $p<.001$
World and folk	$\chi^2(1)=52.816$, $p<.001$
Contemporary and world	$\chi^2(1)=46.604$, $p<.001$
Jazz and folk	$\chi^2(1)=34.280$, $p<.001$
Folk and contemporary	$\chi^2(1)=33.381$, $p<.001$
Folk and musical theatre	$\chi^2(1)=10.614$, $p=.001$

Respondents fell into three categories: those only involved with classical activities (42.7%, $n=212$), those only involved with other-than-classical activities (6.5%, $n=32$) and those involved with classical *and* other-than-classical activities (50.6%, $n=251$). One respondent did not classify themselves as involved with classical or other-than-classical activities (she specified that she only works in Early Music) and was excluded from analyses relating to genre.

⁷⁷ Defined on the survey as being regularly engaged in teaching, performing, composing, researching, etc.

⁷⁸ This term was used by Papageorgi et al., (2010) to describe those who participate in non-classical genres of musical activities (referred to on p.6 of Jørgensen, 2014).

There was a significant association between instrument and genre of activities ($\chi^2(12)=118.342, p<.001$).⁷⁹ Most keyboard, bowed strings and brass teachers were involved with classical activities whereas a higher proportion of vocal, plucked strings and percussion teachers were involved with other-than-classical activities (see Figure 3.5).

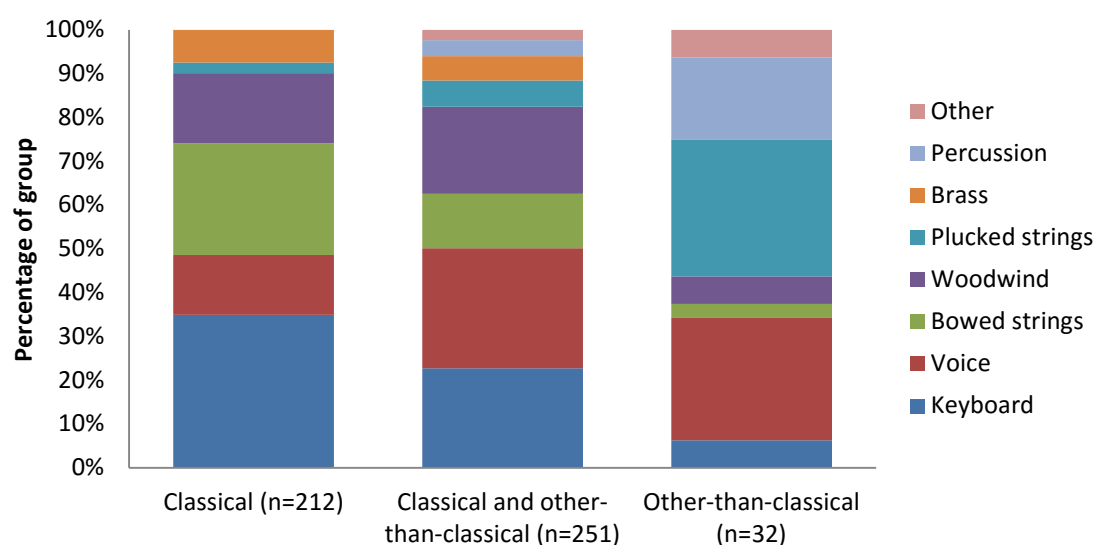


Figure 3.5: Involvement with classical and/or other-than-classical activities among respondents in different instrument groups. *Note:* The total number of respondents in each group is shown under the group label.

Pupils' age groups

Respondents reported which age group(s) they taught: see Figure 3.6. The most commonly reported age group of pupils was 11-16 years (secondary school) and the least common was those aged four or younger (nursery).

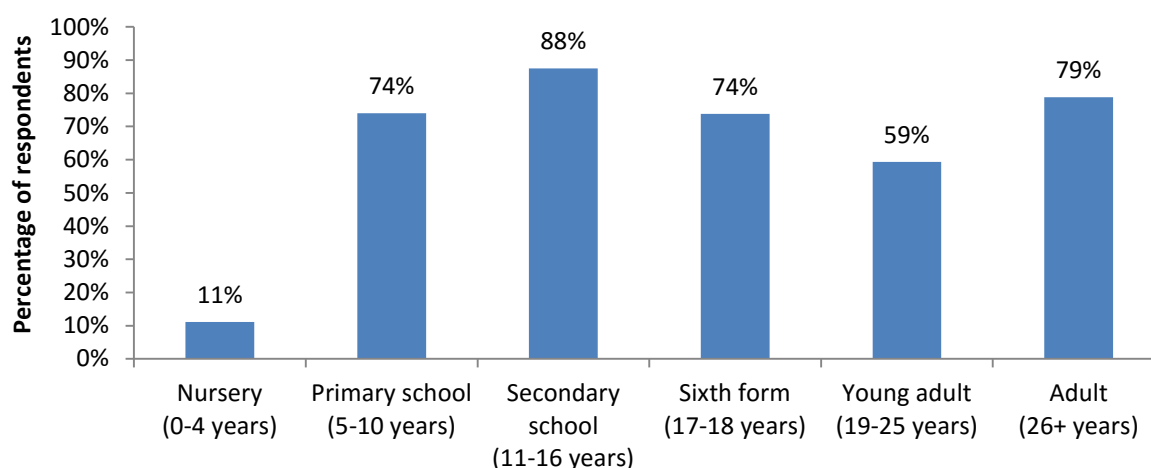


Figure 3.6: Age group(s) that respondents taught ($N=496$). *Note:* Responses are not mutually exclusive.

⁷⁹ This analysis excluded respondents who played 'other' instruments. Three cells (14.3%) had an expected frequency of less than 5; this does not violate the assumptions of a chi-square analysis.

Most respondents taught more than one age group. Significant associations were found between teaching all ‘neighbouring’ pupil age groups as shown in Figure 3.7. Conversely, significantly fewer respondents than expected reported teaching both primary school and young adult pupils ($\chi^2(1)=13.346, p<.001$).

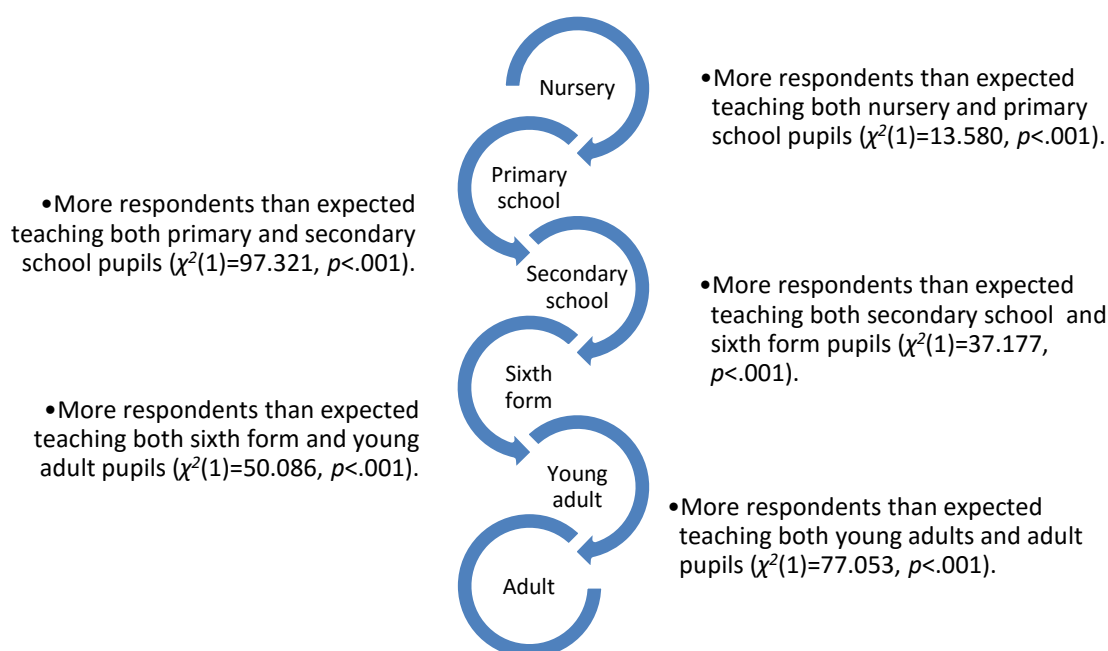


Figure 3.7: Associations between teaching pupils from ‘neighbouring’ age groups

Females were significantly more likely than males to report teaching nursery ($\chi^2(1)=9.041, p=.003$) and secondary school pupils ($\chi^2(1)=8.044, p=.005$). Identity was associated with teaching primary ($\chi^2(3)=19.591, p<.001$) and secondary pupils ($\chi^2(3)=22.230, p<.001$): more instrumental/vocal teachers and fewer performers-who-teach than expected taught pupils from these age groups.

3.2.2 Educational pathways and qualifications

Respondents’ learning environments

Nearly all respondents (95.9%, $n=475$) reported receiving one-to-one lessons, 44.2% (219) reported experiencing group lessons, 34.3% (170) reported teaching themselves to play at least one instrument, and 53% (263) reported participating in activities at a youth music centre and/or junior conservatoire. These results were not mutually exclusive.

Amateur and/or professional performing activities

At some point in their lives over two thirds of respondents (68.1%, $n=338$) reported that they had performed in amateur ensembles, 62.7% (311) in professional ensembles, 45.8% (227) as an amateur soloist, and 34.4% (170) as a professional soloist. In total, 12.3% of

respondents ($n=61$) only reported professional experience, 20.6% ($n=102$) only reported amateur experience, and 47.8% ($n=237$) reported both amateur and professional experience; the remaining 12.3% ($n=61$) did not report any performing experience. Males were more likely than females to have performed in a professional ensemble ($\chi^2(1)=6.657, p=.010$). Identity was associated with performing experience as a greater proportion of 'musicians' reported professional ensemble experience ($\chi^2(3)=57.397, p<.001$), and musicians and performers-who-teach were more likely to report experience as professional soloists ($\chi^2(3)=29.929, p<.001$). Respondents who taught primary school pupils were more likely than those who did not to report amateur ensemble experience ($\chi^2(1)=6.843, p=.009$) and less likely to report professional solo experience ($\chi^2(1)=18.208, p<.001$). Conversely, respondents who taught young adults were less likely to report amateur ensemble experience ($\chi^2(1)=6.854, p=.009$) and more likely to report experience as a professional soloist ($\chi^2(1)=43.450, p<.001$) compared with those who did not.

Training and qualifications

Over three-quarters of respondents (75.6%, $n=375$) reported that they had gained a school music qualification (e.g. GCSE or A Level) and 84.4% (149) had gained at least Grade 5 music theory or beyond. Just over a tenth (11.1%, $n=55$) did not report any theory certificates and 6.2% (31) chose not to answer. Nearly three-quarters of respondents (72.9%, $n=362$) reported that they had passed a Grade 8 (or equivalent) performance exam, 7.2% (36) had gained a Grade 5-7 certificate, and 1% (5) had gained a Grade 2-4 certificate. Just under a tenth (7.7%, $n=38$) did not report any performance certificates and 5.0% (25) chose not to answer. More than half (53.2%, $n=264$) reported that they had passed a diploma exam; most commonly a Licentiate level diploma (reported by 104 respondents) followed by Diploma (68), Associate (54) and Fellow (22).⁸⁰ Where respondents specified the subject of their diploma the most common were performance (22.2%, $n=110$) and teaching diplomas (17.3%, $n=86$).

Nearly four-fifths of respondents (78.6% $n=390$) reported that they had gained a bachelor's degree: there were 222 university graduates (44.8% of 496) and 196 conservatoire graduates (39.5%).⁸¹ Just over two fifths (42.0%, $n=200$) reported that they

⁸⁰ Some respondents did not state the level or subject of their reported diploma.

⁸¹ These results were not mutually exclusive as some respondents had graduated from a university and a conservatoire. The most common degree was a Bachelor of Music ($n=137$) followed by a Bachelor of Arts in Music ($n=66$). There were graduates from over 40 named universities in the UK, 12 named international

had gained a postgraduate (PG) degree: there were 125 (25.2%) respondents with a postgraduate degree from a conservatoire and 100 (20.2%) with a postgraduate degree from a university.⁸² Bachelor's degree were more commonly reported by bowed strings, woodwind and brass teachers (association between bachelor's degree and instrument: $\chi^2(3)=16.050$, $p=.007$) and those who participated in classical activities (association between bachelor's degree and genre: $\chi^2(1)=9.325$, $p=.002$). Respondents' chosen identities were associated with graduating from a conservatoire with a bachelor's ($\chi^2(3)=14.889$, $p=.002$) or postgraduate degree ($\chi^2(3)=14.777$, $p=.002$): musicians and performers-who-teach were more likely to have graduated from a conservatoire than instrumental/vocal teachers and teachers-who-perform. Conservatoire graduates were more likely to be teaching young adults ($\chi^2(1)=7.436$, $p=.006$) and less likely to be teaching primary school pupils ($\chi^2(1)=8.748$, $p=.003$) than non-conservatoire-graduates. Conservatoire graduates were more likely to report performing in professional ensembles (bachelor's; $\chi^2(1)=21.131$, $p<.001$; PG; $\chi^2(1)=23.406$, $p<.001$) and as a professional soloist (bachelor's; $\chi^2(1)=13.671$, $p<.001$; PG; $\chi^2(1)=21.253$, $p<.001$) compared with non-conservatoire-graduates. Conversely, university graduates were more likely to report performing in amateur ensembles ($\chi^2(1)=21.131$, $p<.001$) and as an amateur soloist ($\chi^2(1)=13.671$, $p<.001$) compared with non-university-graduates.

Just over a tenth of respondents (12.3%, $n=61$) reported a bachelor's teaching qualification⁸³ and 13.2% (63) a PG teaching qualification.⁸⁴ Other qualifications included those awarded by the ABRSM (Certificate of Teaching, $n=31$), City and Guild ($n=10$), and the University of Reading (Music Teaching in Professional Practice, $n=6$). Nearly two-fifths of respondents (38.9%, $n=192$) reported attending CPD courses delivered by organisations such as the ABRSM, Kodaly Institute, Estill, Suzuki, Dalcroze Eurhythmics, British Voice Association (BVA), European String Teachers Association (ESTA), and European Piano Teachers Association (EPTA) (see Appendix D for a list of CPD providers).

universities, all nine UK conservatoires, eight other UK performing arts institutions and seven international performing arts institutions. The term 'conservatoire' is used synonymously with the term 'music college'.

⁸² These results were not mutually exclusive. The most common PG degrees were a Master of Music ($n=58$), Master of Arts ($n=48$) and Postgraduate Diploma ($n=20$). Master's degrees were awarded from 27 UK universities, two international universities, eight of the nine UK conservatoires and seven other institutions in the UK and abroad. Twenty-two respondents held or were working towards a doctorate level qualification.

⁸³ Fifty-three reported a Certificate of Education, six a Bachelor of Education and two a Business and Technician Education Council (BTEC) qualification.

⁸⁴ Forty-seven reported a PG Certificate in Education (PGCE) and 16 had achieved Qualified Teacher Status via another route

Qualification levels

Qualifications regulated by the Office of Qualifications and Examinations Regulation (OFQUAL) are catalogued in the Regulated Qualifications Framework (RQF). Qualifications progress from entry level to level 8 indicating the difficulty and complexity of the knowledge and skills associated with the qualifications. Nearly half of respondents (45.4%, $n=225$) had gained at least a RQF level 6 qualification (equivalent to the final year of a bachelor's degree). A further 34.7% ($n=172$) had progressed to RQF level 7 (equivalent to a master's degree) and 5.4% ($n=27$) to RQF level 8 (equivalent to a doctorate). Two respondents did not report any qualifications and 14.1% (70) had achieved qualifications between RQF levels 1 and 5. Figure 3.8 shows the highest overall RQF level achieved by respondents and highest RQF levels achieved in theory, performance, academic, teaching, and diploma qualifications/certificates. Nearly three-fifths of respondents (58.9%, $n=292$) gained their highest overall RQF level from an academic qualification, a further 11.5% ($n=57$) from a diploma, and 10.9% ($n=54$) from a combination of academic qualification and diploma awarded at the same level. Teaching certificates contributed the highest level for 9.2% (46), and a further 3.4% (17) gained their highest level qualification from a combination of academic and teaching qualifications awarded at the same level. Performance/theory certificates only contributed the highest level for 3.0% (15) respondents, and 1.8% (9) gained their highest RQF level from a combination of academic and theory/performance certificates.

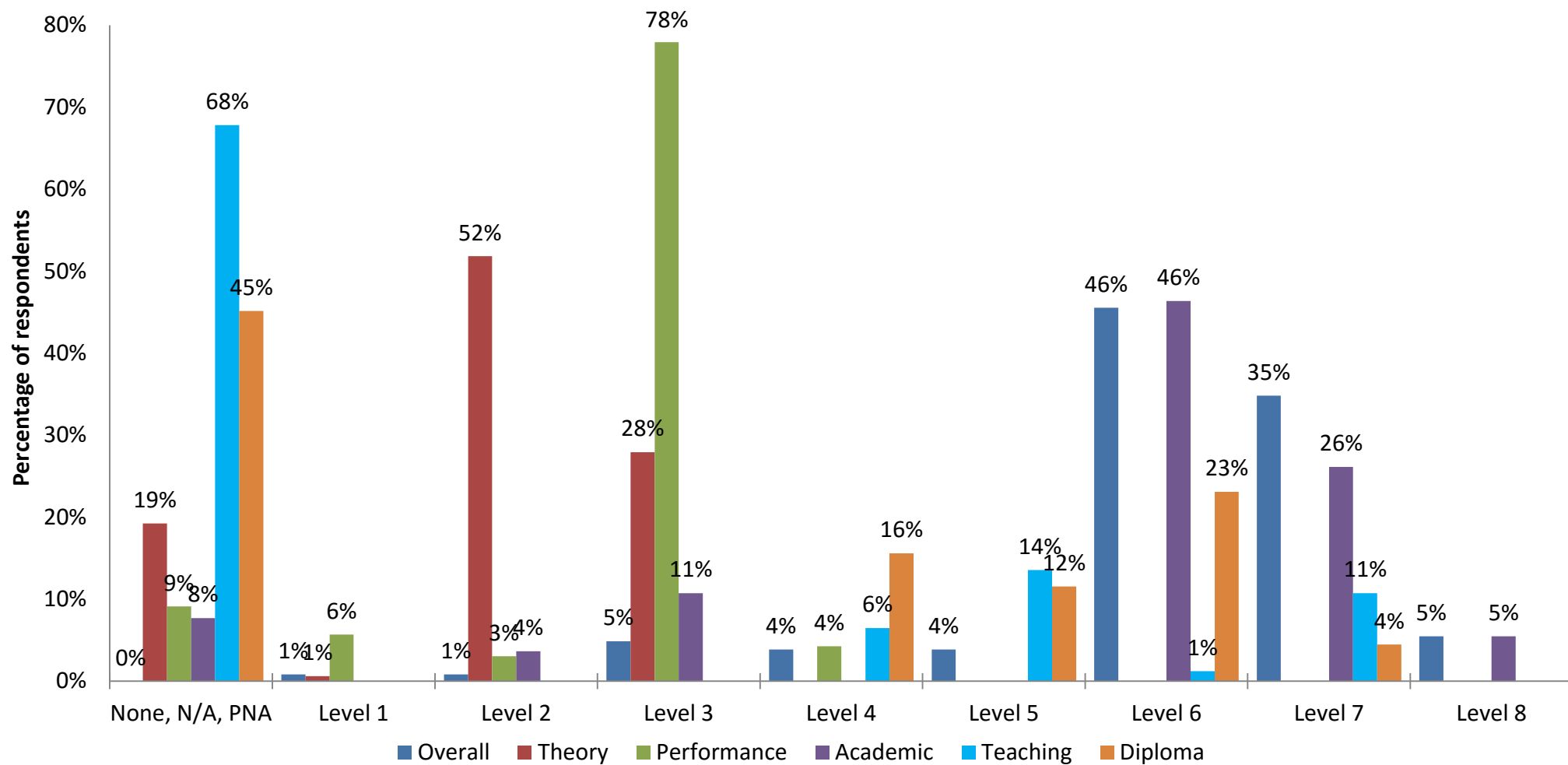


Figure 3.8: Respondents' highest level qualifications categorised according to the RQF ($N=494$). *Note:* Two respondents did not report any qualifications accredited by the RQF.

A greater percentage of respondents with more than forty years' teaching experience reported that they had gained diplomas at RQF levels 7 and 8 compared with respondents with less than ten years' experience (see Figure 3.9).

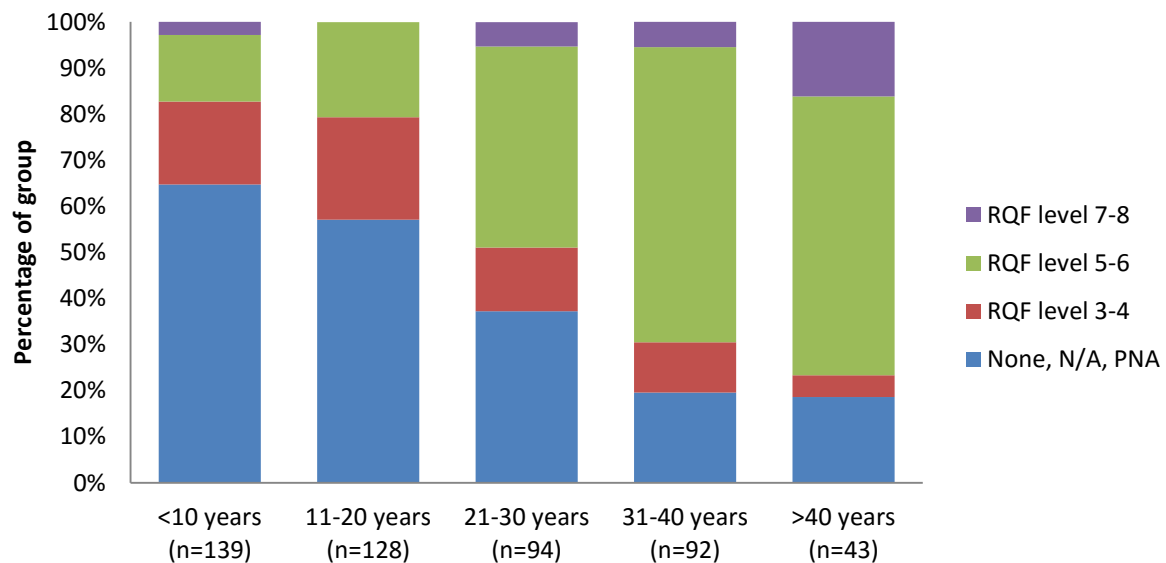


Figure 3.9: Diplomas categorised according to the RQF reported by respondents with varying teaching experience. *Note:* The total number of respondents in each group is shown under the group label.

There were also differences between the percentages of respondents with varying experience who reported teaching qualifications (see Figure 3.10). Although a greater proportion of respondents with more than 10 years' experience reported a teaching qualification compared with those with less than 10 years' experience, the increase did not follow a linear trend.

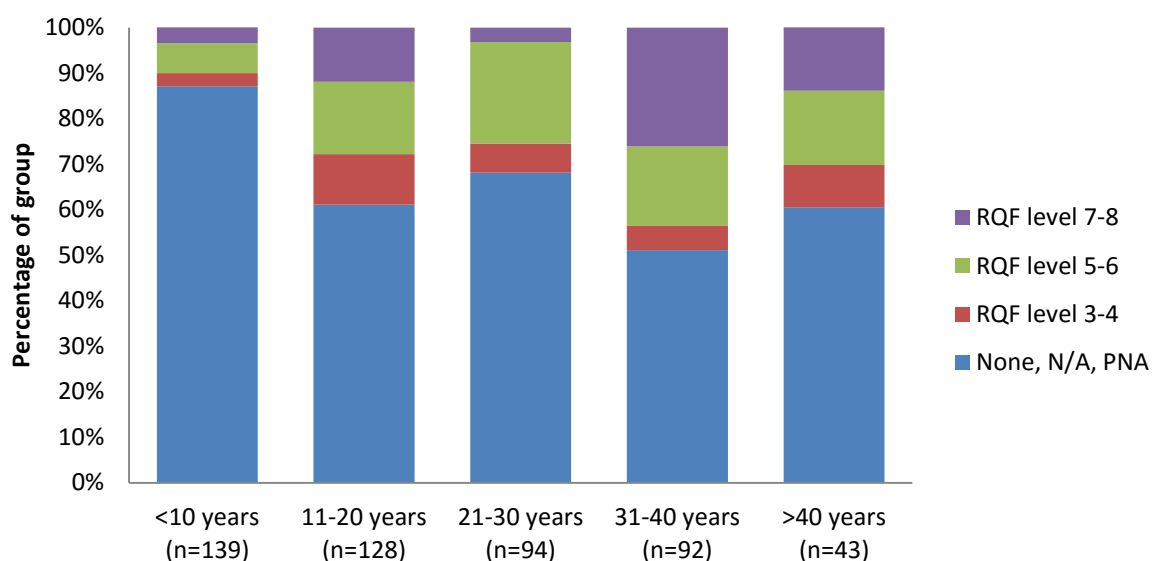


Figure 3.10: Teaching qualifications categorised according to the RQF reported by respondents with varying teaching experience. *Note:* The total number of respondents in each group is shown under the group label.

Beliefs about minimum qualifications

Respondents were invited to respond to the following open-ended question:

What do you believe should be the minimum required qualification(s) that a musician must hold to teach instrumental/vocal music lessons?

Nearly a tenth of respondents (9.5%, $n=47$) indicated that they would prefer not to answer and the remaining 90.5% (449) provided a response. A map of key themes is shown in Figure 3.11. Most commonly, responses related to the need for a teacher to hold a certain type of qualification (predominantly a performance certificate or academic qualification), exhibit a range of skills or attributes, and/or have a certain level of teaching experience, and be involved in certain performing activities.

For 11.2% of respondents (56) the level of minimum qualification depended on factors such as the teaching environment, genre of study, and age or ability of pupils. The general perception was that qualifications should be linked to ability level: e.g. “as a student's competence levels rise, so should the expertise levels of the teacher” (R311). However, others expressed the view that teachers with musicality and enthusiasm may be more inspiring for beginners than “the highest qualified player with a disdain for rudimentary playing” (R243) and that “a shortage of people with high levels of musical qualifications should not prevent basic training in beat, rhythm and pitch through vocal and percussion approaches” (R311). One respondent suggested that although teachers of beginners need to be competent to avoid hindering pupils’ learning, they do not need a ‘fantastic technique’ as “that hard work can be taught later” (R604). Conversely, a small group of respondents reported that teachers working with young pupils should be subject to “more scrupulous requirements” (R571) although this was most commonly associated with child protection rather than teaching competency.

Just over 10% of respondents (11.6%, $n=58$) reported that there should not be a minimum qualification for instrumental/vocal teaching in the UK. Some of these respondents did not give an explanation, others did (shown in Figure 3.11 as ‘No minimum, because...’), some respondents believed that there should not be a mandatory minimum qualification but that training is helpful, and others stated that qualifications that are currently available would not be appropriate as a minimum qualification. Finally, a small group of respondents suggested that qualifications are not enough to measure a teacher’s effectiveness and success.

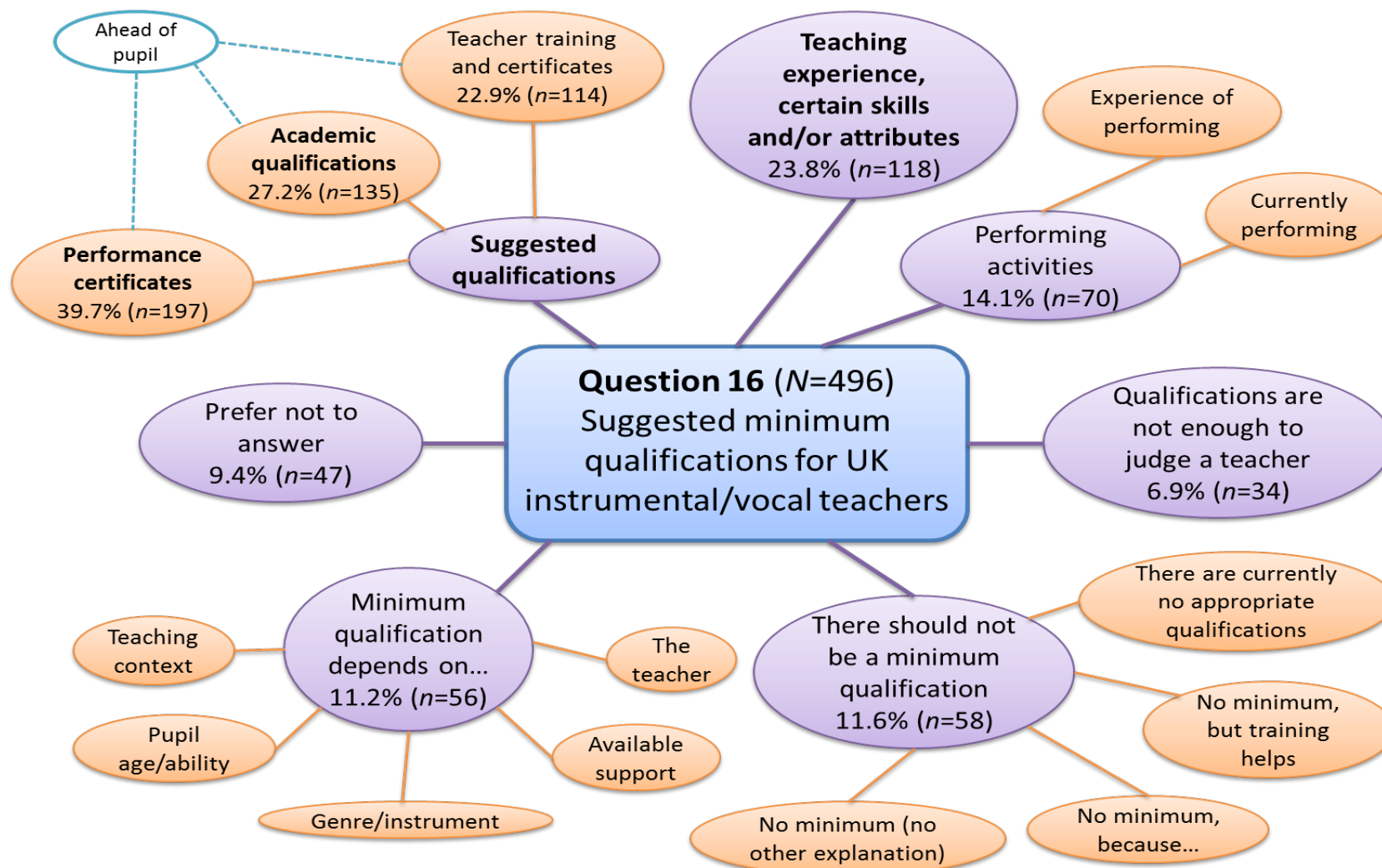


Figure 3.11: Suggested minimum qualifications for UK instrumental/vocal teachers

3.2.3 Summary of associations (Figure 3.11)

There were significant associations between the demographic characteristics and educational pathways illustrated in Figure 3.12 as purple ovals. Associations between these factors formed constellations that cannot be tested using regression analyses from data gained during this study but which could be investigated in future research. Significant associations between factors (as identified using chi-square analyses) are shown in Figure 3.12 using double-headed arrows with solid lines; subsequent association maps (Figures 3.26 and 5.15) will also use this way of marking significant chi-square associations between factors. Respondents' sex and graduate status (i.e. whether they had graduated, and what type of institution they attended) were associated with five other factors, although not with each other. The age group(s) that respondents taught, their performing activities and identities were each associated with four other factors. Teaching instrument and genre were only associated with three other factors.

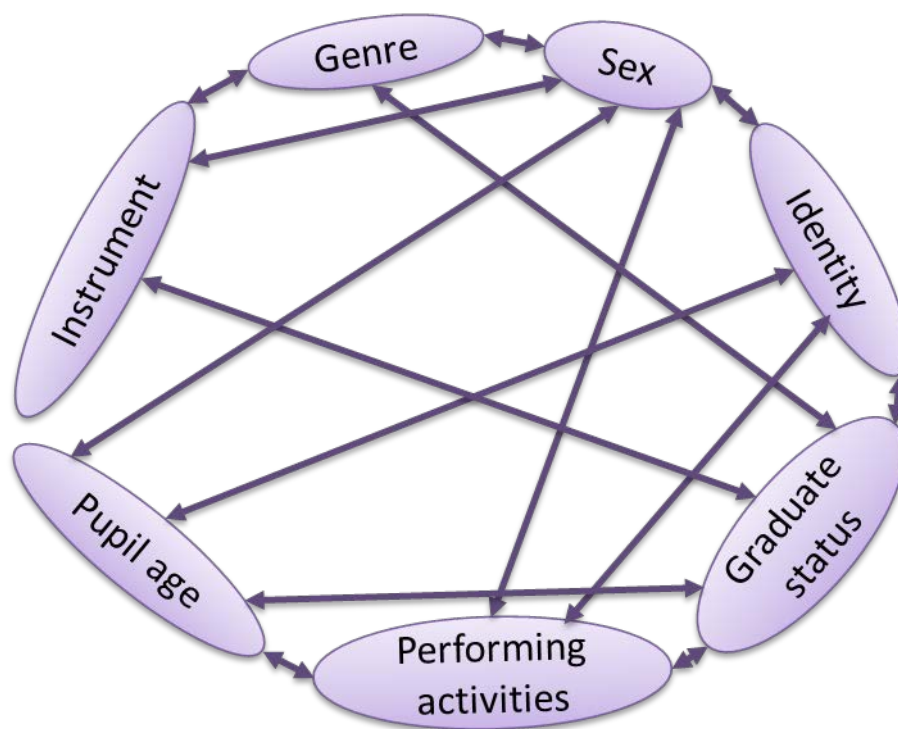


Figure 3.12: Associations between demographic characteristics and educational pathways

Results are added to this diagram in Sections 3.3.4 and 5.1.3 to illustrate associations between the factors illustrated in Figure 3.12 and respondents' experience of PRPs and responses to health-related questions.

3.2.4 Performance-related problems

Physical symptoms

Over two-thirds of respondents (69.3%, $n=328$ of 476) reported a history of physical symptoms that affected their ability to play/sing and 29.6% ($n=141$) were experiencing symptoms at the time of the study (henceforth “current symptoms”). Figure 3.13 illustrates the duration of physical symptoms reported by 163 respondents.⁸⁵

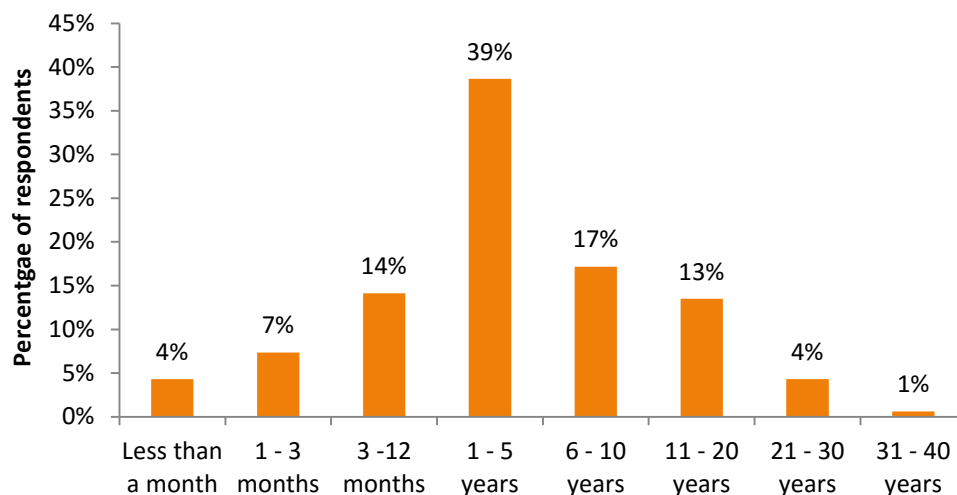


Figure 3.13: Duration of respondents’ physical symptoms ($N=163$). *Note:* Only 163 respondents reported the duration of their physical symptoms. A total of 63 respondents (38.7%) had experienced symptoms for between one and five years.

Respondents who taught some instruments were more likely to report symptoms than others (see Figure 3.14 below): reporting current symptoms was significantly associated with instrument ($\chi^2(5)=16.748$, $p=.005$)⁸⁶ but reporting a history of symptoms was not. Teaching primary school pupils was associated with reporting a history of symptoms ($\chi^2(1)=8.225$, $p=.004$), current symptoms ($\chi^2(1)=12.105$, $p=.001$) and symptoms that had been present for more than a year ($\chi^2(3)=15.663$, $p=.001$). Respondents who only reported amateur performing experience were 2.11 times more likely to report a history of symptoms than those who reported professional performing experience.

⁸⁵ Note: A total of 163 respondents answered this question although only 141 reported experiencing symptoms at the time of the study therefore it is not clear whether these symptoms were on-going.

⁸⁶ Percussionists were excluded from this analysis as a result of low representation.

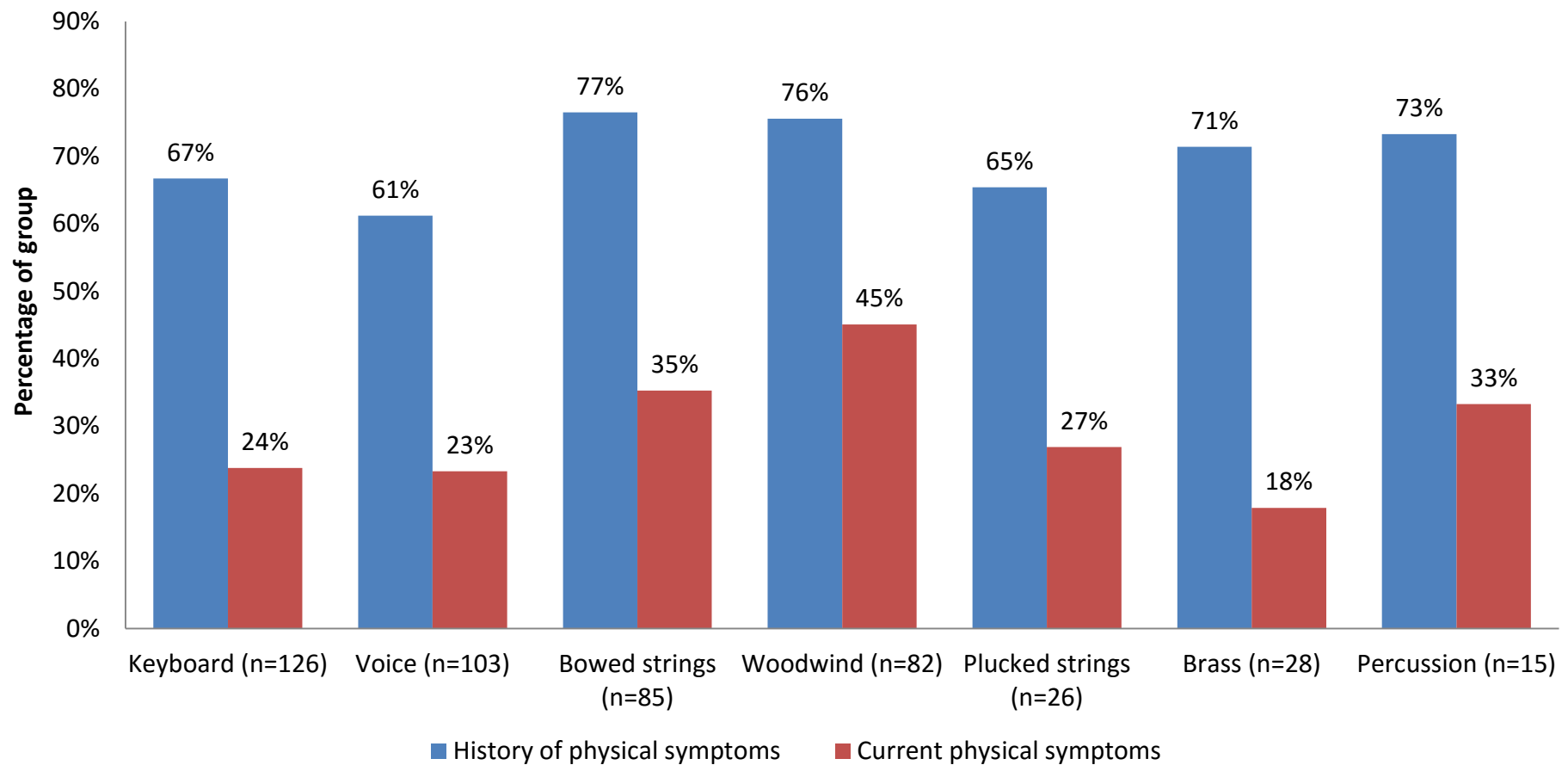


Figure 3.14: Physical symptoms reported by respondents who taught different instruments. *Note:* The total number of respondents in each group is shown under the group label.

Reported diagnoses

Respondents were invited to give details of diagnoses relating to physical symptoms; 29.2% ($n=138$ of 473)⁸⁷ reported a diagnosis, 36.2% (171) did not report a diagnosis, and 34.7% (164) marked the question as 'not applicable'. An overview of the reported diagnoses, categorised by type of disorder, can be seen in Table 3.3 (the number of respondents reporting a diagnosis in each category is shown).

Table 3.3: Diagnoses relating to physical symptoms divided by type of disorder ($N=138$)

Type of disorder	Specific diagnoses
Joint problems ($n=37$)	Arthritis, spinal abnormality or injury including scoliosis, herniated or prolapsed disc(s), and/or hypermobility and associated symptoms
Inflammatory conditions ($n=34$)	Tendonitis, tenosynovitis, golf, tennis or badminton elbow, trigger finger or thumb, and/or unspecified inflammation
Nerve compression or entrapment ($n=27$)	Carpal tunnel syndrome, thoracic outlet syndrome, ulnar nerve entrapment, trapped nerve, sciatica and/or 'conflict syndrome of the acromion'
Muscle or tendon sprains or strains ($n=8$)	'Repetitive strain injury', frozen shoulder and/or torn cartilage
Vocal ($n=22$)	Laryngitis, acid reflux vocal pathology bronchitis, upper respiratory tract infection, vocal collapse, muscle tension dysphonia, voice loss and/or increased bulk in the lymph nodes
Other ($n=27$)	Ganglion cysts, unspecified back pain or injury, fibromyalgia, Raynaud's syndrome, myalgic encephalopathy (ME), multiple sclerosis (MS), muscle imbalance, nerve pain, vertigo, jaw pain and damage, tooth decay, temporomandibular jaw dysfunction (TMJ), polyp in lip, scar tissue, dyspraxia, B12 deficiency, sarcoidosis, transverse myelitis, and/or Parkinson's disease

Note: Responses are not exclusive to one category of PRMD

Most respondents reported that diagnoses came from doctors (73 respondents) and/or physiotherapists (23 respondents). Respondents also received diagnoses from osteopaths (8), dentists (4), Chiropractors (2), an Alexander Technique teacher or other specialists ($n=8$, e.g. voice specialist, speech therapist, educational psychologist, or sports therapist).

Analysis of the type of disorder reported by respondents who taught different instruments instrument yielded non-significant differences (see Figure 3.15). Bowed strings and woodwind teachers were most likely to report joint problems, keyboard teachers were most likely to report inflammatory conditions, woodwind and plucked strings teachers were most likely to report nerve compression/entrapment, and vocal teachers were most likely to report vocal problems.

⁸⁷ Three respondents had dropped out by this question reducing the sample to 473.

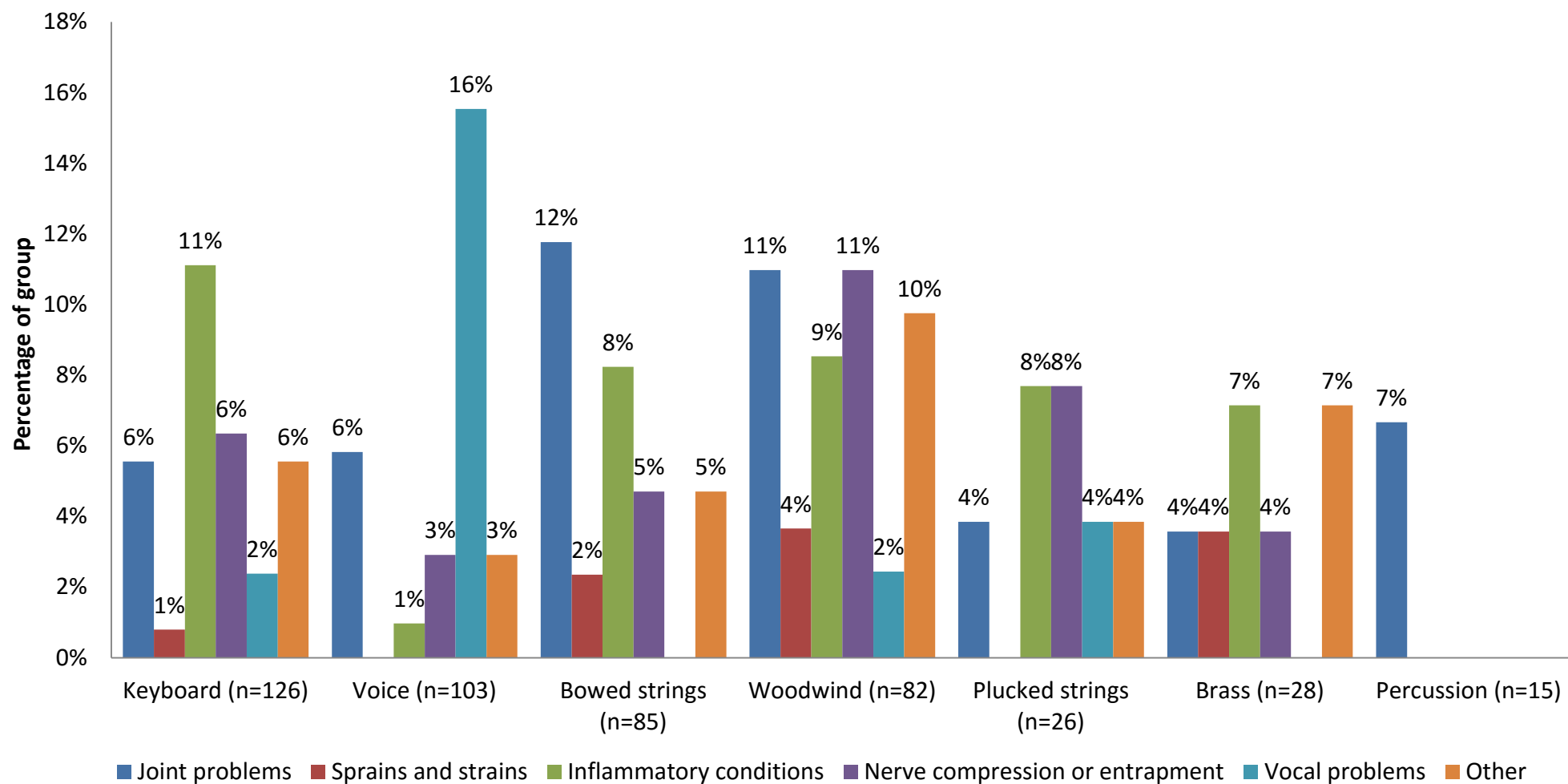


Figure 3.15: Type of disorder reported by respondents who taught different instruments. *Note:* The total number of respondents in each group is shown under the group label. Responses were not exclusive.

As the reported duration of symptoms increased the percentage who reported a diagnosis also increased (see Figure 3.16); however, the number of respondents in each group decreased after 6 years so these factors were not significantly associated. Of the 156 respondents who reported that symptoms had lasted at least a month, 45.5% (71) reported a diagnosis.

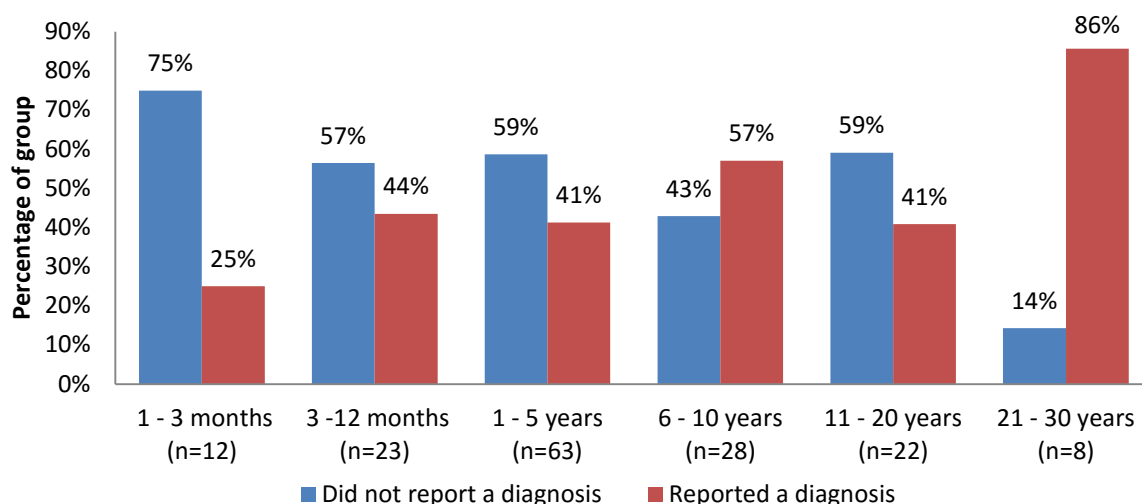


Figure 3.16: Comparison of duration of physical symptoms and reporting a diagnosis. *Note:* The total number of respondents in each group is shown under the group label.

Advice and/or treatment for physical symptoms

Over half of respondents (53.1%, $n=251$) indicated that they had received advice and/or treatment relating to physical symptoms but 18.3% (87) had not; the remaining 28.5% (135) marked this question as 'not applicable'. Most respondents reported that they had consulted physiotherapists (44.6%, $n=112$) or doctors (41.4%, $n=104$).⁸⁸ Other sources of advice and/or treatment included Alexander Technique teachers (44), osteopaths (43), specialists at a BAPAM clinic (17), chiropractors (16), specialists at a voice clinic (15), massage therapists (11), acupuncturists (10).⁸⁹ Twelve respondents reported asking other musicians, usually their teacher, for advice. Respondents who reported seeing a physiotherapist, Alexander Technique teacher, osteopath, chiropractor, massage therapist, or acupuncturist had, on the whole, received treatment in line with the principles of those disciplines. Respondents were also advised to do exercises or stretches (reported by 37 respondents), take medication (35), have massages (28), rest (27), change their posture (19), change their technique (17), receive acupuncture (16), use supports or

⁸⁸ Most respondents who consulted a doctor saw a general practitioner (GP, $n=72$) or hospital consultant ($n=46$); only 13 respondents had seen a surgeon.

⁸⁹ Less common sources of advice and/or treatment included dentists, hand therapists, T'ai Chi instructors, an educational psychologist, a Bowen therapist, Chinese practitioner, laryngeal manipulator, nutritional therapist, kinesiologist, members of the International Society for the Study of Tension in Performance (ISSTIP) and other (non-specified) specialists.

adapt their instrument (11), do Yoga or Pilates (11), take regular exercise (9), undergo surgery (8) or stop playing (4).⁹⁰

Respondents who reported professional performing experience were 2.93 times more likely to have seen an osteopath compared with those without. Respondents with performance-focused identities (i.e. musicians and performers-who-teach) were 2.4 times more likely to have had Alexander Technique lessons and 1.58 times more likely to have seen a physiotherapist compared with respondents with teaching-focused identities (i.e. instrumental/vocal teachers and teachers-who-perform). Graduates were 2.27 times more likely than those who had not graduated to report attending Alexander Technique lessons. Respondents with RQF level 7 or 8 qualifications were 4.14 times more likely to report receiving physiotherapy compared with those with RQF level 3 or 4 qualifications.

There were differences in the specialists that respondents reported consulting for advice and/or treatment, and/or who diagnosed their symptoms (see Figure 3.17). For example, 45% of respondents consulted physiotherapists for advice and/or treatment but only 17% reported a diagnosis from them; conversely, 53% had received a diagnosis from a doctor compared with 41% who had consulted a doctor for advice and/or treatment.

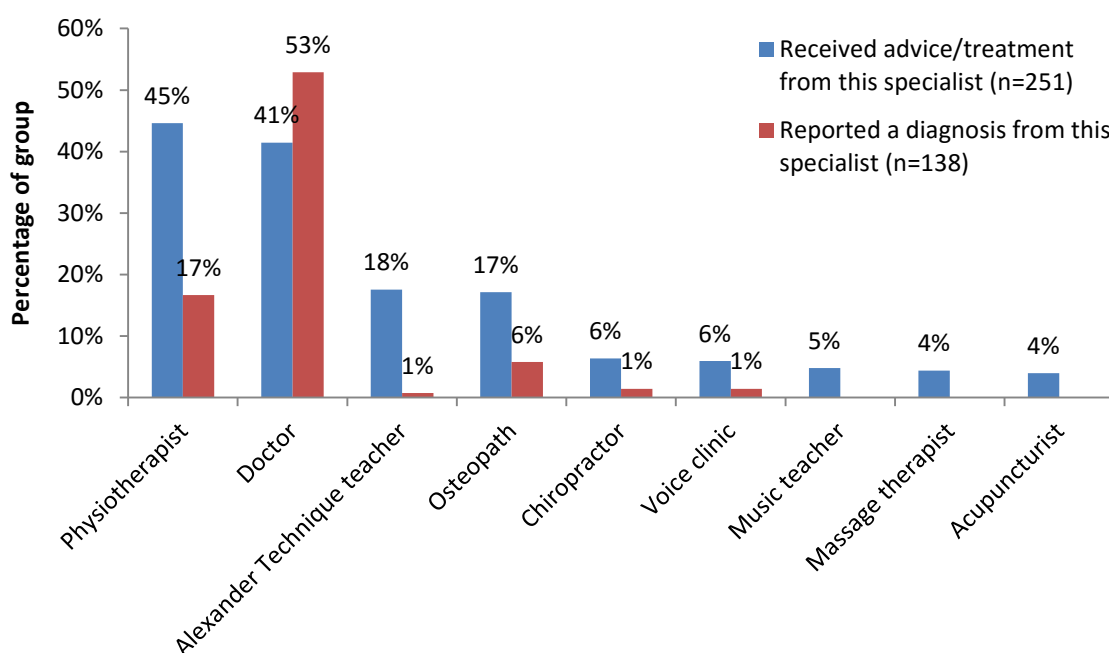


Figure 3.17: Consultation of various specialists for advice and/or treatment for physical symptoms, and/or diagnosis of symptoms. *Note:* The total number of respondents in each group is shown in the legend. Responses are not mutually exclusive.

⁹⁰ Other advice and/or treatment included undergoing a gradual return-to-play programme, joint manipulation, or lifestyle modifications, rubbing the site of injury, ‘steaming the voice’, use of reflexology, heat or ice, a TENS machine, wearing warm clothes, and non-Western remedies.

Music performance anxiety

Over half of respondents (54.9%, $n=260$) reported a history of MPA, and 27.9% (133) were experiencing MPA at the time of the study (henceforth “current MPA”). Of the 198 respondents who rated the extent to which MPA symptoms affected their musical activities (from 1 ‘not at all’ to 7 ‘a lot’) 38% reported that symptoms had a low effect (ratings 1 and 2; $n=75$), 53% reported that symptoms had a moderate effect (ratings 3, 4 and 5; $n=105$), and 9% reported that symptoms had a high effect (ratings 6 and 7; $n=18$).

Females were 1.71 times more likely to report current MPA, and 2.12 times more likely to report moderate or high effects compared with males but the associations were not significant. A greater percentage of teachers-who-perform reported current MPA compared with performers-who-teach (see Figure 3.18). The extent to which MPA affected teachers-who-perform (mean=1.52, median=0) was significantly higher than for performers-who-teach (mean=.075, median=0), $U=1897.0$, $z=-2.471$, $p=.013$, $r=-.20$.

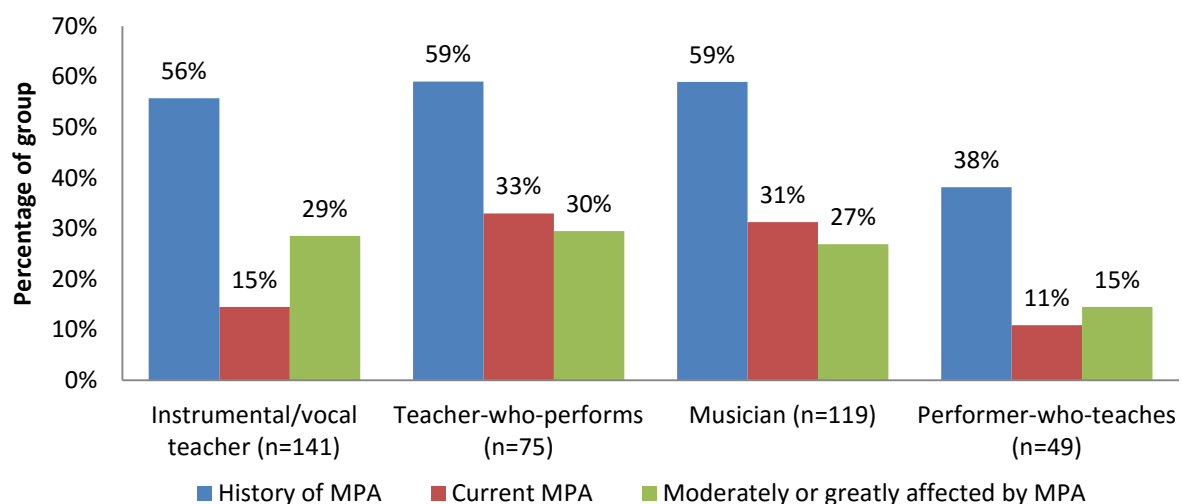


Figure 3.18: Report of MPA by respondents in different identity groups. *Note:* The total number of respondents in each group is shown under the group label.

Respondents’ performing experiences were associated with reporting MPA (see Figure 3.19). Reporting professional solo experience was associated with not reporting current MPA ($\chi^2(1)=11.234$, $p=.001$) and the extent to which MPA affected respondents who reported professional solo experience (mean=0.94, median=0) was significantly lower than for those who did not (mean=1.58, median=0), $U=208623$, $z=-3.619$, $p<.001$, $r=-.17$.

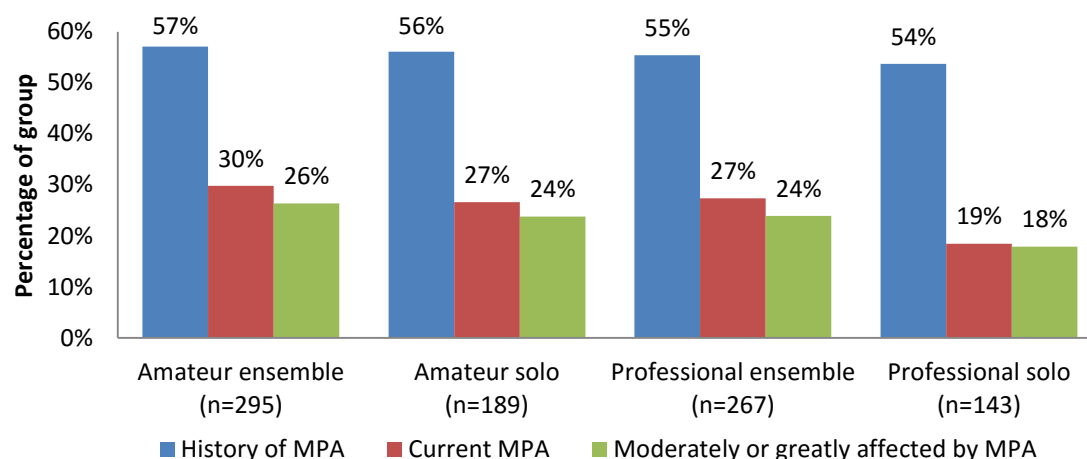


Figure 3.19: Report of MPA by respondents involved in different performing activities. *Note:* The total number of respondents in each group is shown under the group label.

Reporting of different types of degrees was associated with reporting of MPA (see Figure 3.20). Holding a PG conservatoire degree was significantly associated with not reporting current MPA ($\chi^2(1)=13.614, p<.001$) and the extent to which MPA affected respondents who reported a PG conservatoire degree (mean=0.93, median=0) was significantly lower than for those who did not (mean=1.51, median=0), $U=18246.5, z=-2.899, p=.004, r=-.13$.

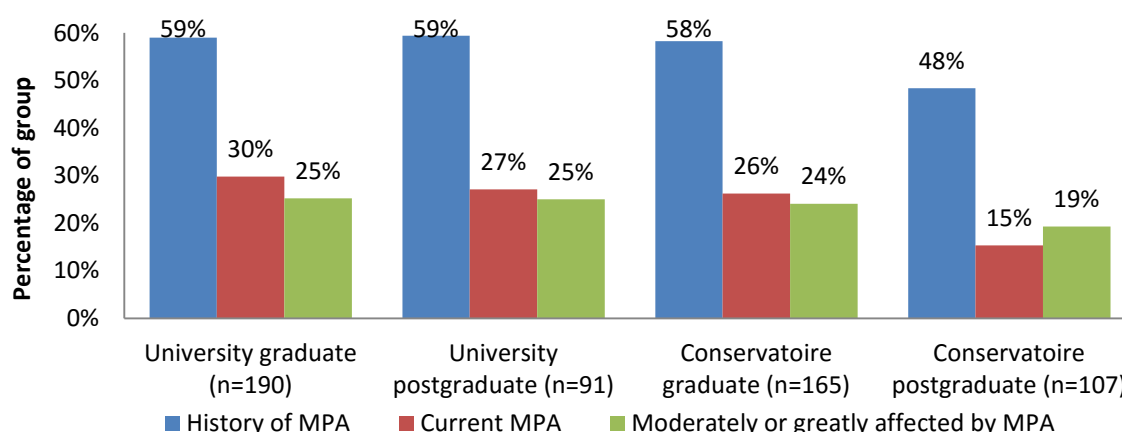


Figure 3.20: Report of MPA by graduates. *Note:* The total number of respondents in each group is shown under the group label. Responses are not mutually exclusive.

Advice and/or treatment for MPA

Over a fifth of respondents (21.9%, $n=104$) reported that they had received MPA-related advice and/or treatment but 41% (194) had not; the remaining 37.0% (175) marked this question 'not applicable'. Respondents consulted counsellors, psychiatrists or psychotherapists (24 respondents), GPs (23), colleagues (16), music teachers (16), performance coaches (14), hypnotists (14), Alexander Technique teachers (7) or a combination of these and others.⁹¹ Respondents who reported moderate or high effects

⁹¹ Less common sources included books, workshops, mindfulness courses, Neuro Linguistic Programming, the "Grindea Technique", a neurologist, and information from other disciplines (i.e. drama and art).

of MPA were more likely to have received advice and/or treatment, read about MPA, or attended a course. A greater proportion of females (25.3%, $n=82$) had received advice and/or treatment compared with males (13.8%, $n=20$). Those who had performed professionally were more likely to have received advice compared to amateur performers and conservatoire graduates were more likely to have received advice than university graduates (see Figure 3.21); however, those with professional performing experience were also the most likely to report that this question was not applicable.

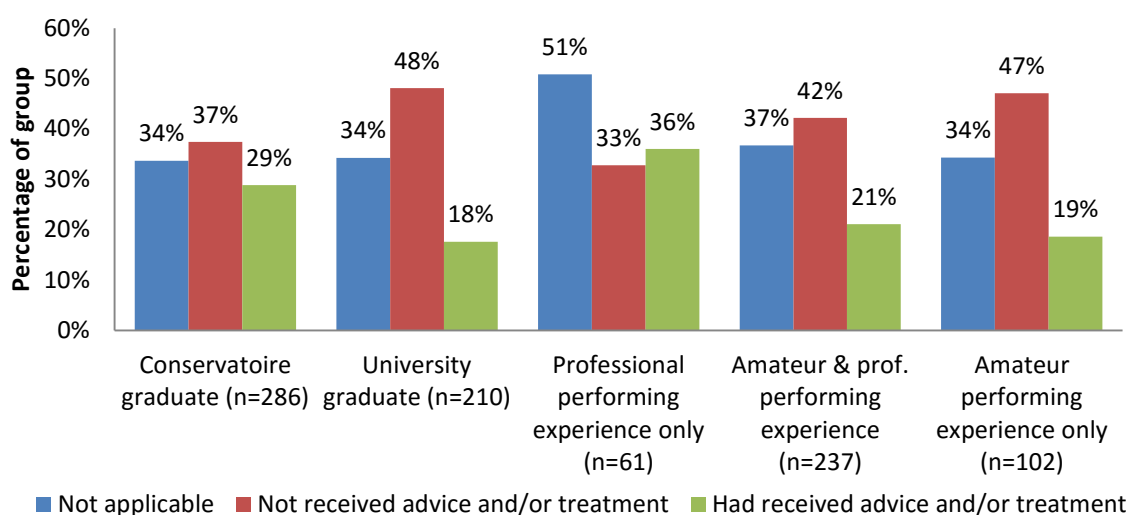


Figure 3.21: Report of MPA advice and/or treatment by conservatoire and university graduates, and professional or amateur performers. *Note:* The total number of respondents in each group is shown under the group label. Responses are not mutually exclusive.

Thirty-three respondents reported using beta-blockers at least once: see Table 3.4 for a selection of experiences. Eleven respondents had tried hypnotism, ten had accessed cognitive-behavioural therapy, seven had received Alexander Technique lessons (cited as treatment for MPA) and five had practised meditation.⁹² Use of beta-blockers was more common among professional performers (12%) compared with other respondents (5%-8%), and university postgraduates (10%) compared with other respondents (5%-8%).

Table 3.4: Respondents' experiences of using beta-blockers

R#	Illustrative quotations
286	Because I rely on beta-blockers, I no longer feel anxious about performing and although I get keyed-up before a performance, it is with a sense of looking forward to the experience rather than anxiety about it in a negative way. Beta-blockers have been miraculous for me...
542	Years ago, I was given beta-blockers for performance nerves, but the result was that I forgot my words - I was doing my degree performance, and didn't care! Normally, if I forget my words, I am so 'wired' that I can make up words to cover my lapse.
563	I am usually fine but if the occasion of the performance is very important, or I am not totally confident with my performance, I take a mild beta-blocker. This helps me by stopping me from shaking with nerves.

⁹² Other techniques included use of homeopathic remedies, desensitisation and preparation processes, breathing and relaxation techniques, anti-depressants, Valium, and migraine or epilepsy medication.

Hearing problems

Over two-thirds of respondents (67.6%, $n=320$) did not report hearing problems but 32.3% (153) reported that they believed their hearing was affected by noise, age and/or disease. Only 24 respondents provided a diagnosis: 10 of these did not directly relate their diagnoses to noise⁹³ and of the remaining 14 respondents nine reported tinnitus, six reported hearing loss, one reported distorted/overly sensitive hearing and another hyperacusis. Significantly more males reported hearing problems compared with females ($\chi^2(4)=14.494$, $p=.006$). The percentage of respondents who reported hearing problems generally increased with age up to 65 years then decreased; see Figure 3.22.

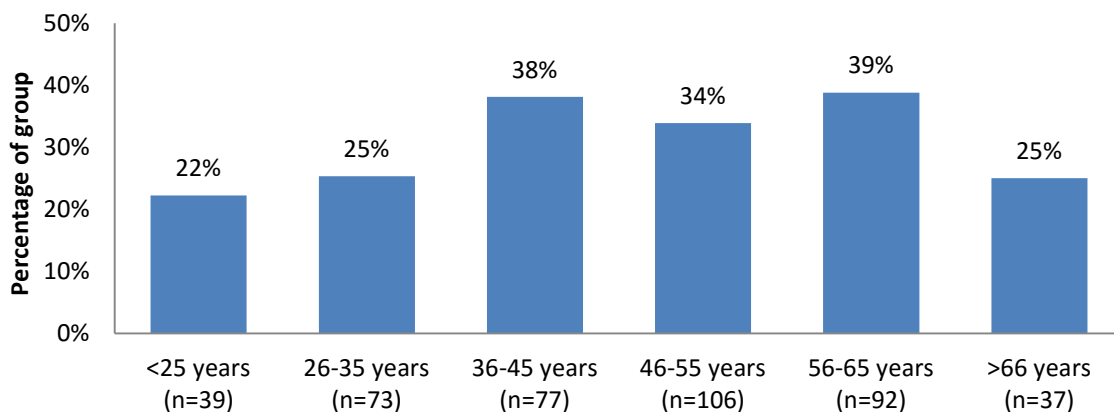


Figure 3.22: Hearing problems reported by respondents in different age groups. *Note:* The total number of respondents in each group is shown under the group label.

There was a significant association between instrument and reported hearing problems ($\chi^2(5)=23.059$, $p<.001$); Figure 3.23 illustrates the percentage of respondents who taught different instruments and reported a hearing problem.

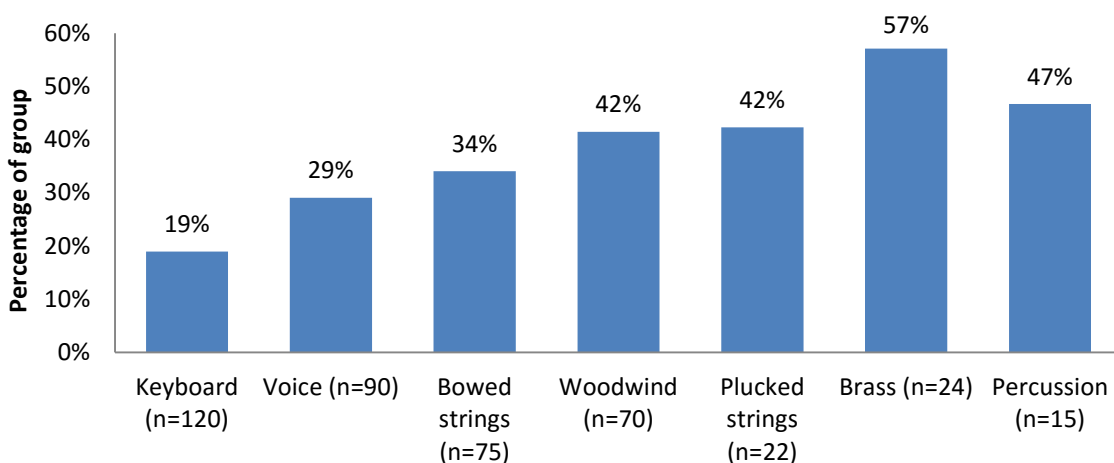


Figure 3.23: Hearing problems reported by respondents who taught different instruments. *Note:* The total number of respondents in each group is shown under the group label.

⁹³ These diagnoses were given as ear infections ($n=4$), Ménière's disease (2), acoustic neuroma (1), perforated ear drum (1) and age-related hearing loss (2).

There was a significant association between genre of activities and hearing problems ($\chi^2(2)=11.147, p=.004$): a much greater proportion (60%) of other-than-classical respondents reported a hearing problem compared with those who only participated in classical music (30%) and those who participated in both (31%).

Advice for hearing problems

Only 13.3% of respondents ($n=63$) had received hearing-related advice; 32.4% (153) had not received advice, and 54% (257) marked this question as 'not applicable'. Advice was received from GPs (reported by 14 respondents), ear nose and throat (ENT) specialists (14), audiologists or at a hearing clinic (9), or at a hearing check-up (9).⁹⁴ The most commonly reported management strategies involved wearing ear plugs, defenders or attenuators (reported by 26 respondents), avoiding loud environments (8), or getting hearing aids (5).⁹⁵ Respondents involved in other-than-classical activities were more likely to report receiving hearing advice (33%) than those who were only involved in classical activities (11%) and those who were involved in both (13%). Similarly, there were differences between the percentages of respondents who taught different instruments and reported receiving advice (see Figure 3.24).

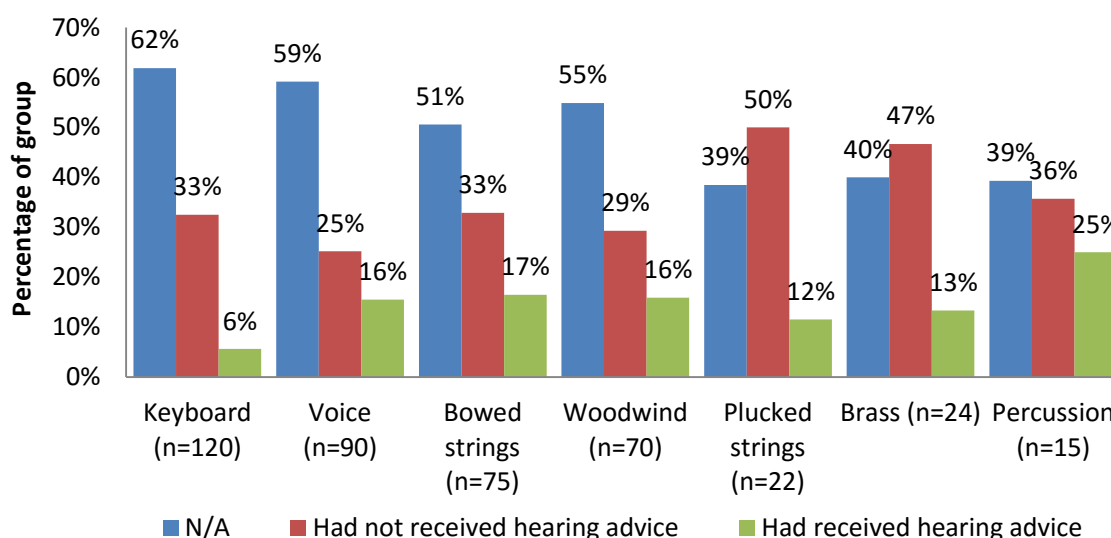


Figure 3.24: Hearing advice reported by respondents who taught different instruments.
Note: The total number of respondents in each group is shown under the group label.

Co-morbidity of performance-related problems

In total, 87.9% of respondents (416 of 473) reported that they had experienced at least one PRP: of those, 35.5% (168) had experienced one type of PRP, 36.2% (171) had

⁹⁴ Other sources of information included the MU, colleagues, employers, a pharmacy, a homeopath, osteopath, nurse and local authority advice seminar.

⁹⁵ Other strategies included use of homeopathic remedies, ear syringing, hearing therapy programmes, and distraction techniques.

experienced two types and 16.3% (77) had experienced all three types of PRP surveyed. Significant associations were found between reporting i) current physical symptoms and current MPA ($\chi^2(1)=8.914, p=.003$); ii) current physical symptoms and moderate/high MPA effects ($\chi^2(1)=14.010, p<.001$); iii) hearing problems and a history of MPA ($\chi^2(1)=12.503, p<.001$); and iv) hearing problems and current MPA ($\chi^2(1)=10.724, p=.001$). Respondents who reported a hearing problem reported significantly higher MPA effects (mean=1.7, median=1) than those who did not (mean=1.2, median=0), $U=20461.0, z=-3.230, p=.001, r=-.15$. Figure 3.25 illustrates the percentage of respondents who reported MPA symptoms alongside current physical symptoms and/or hearing problems.

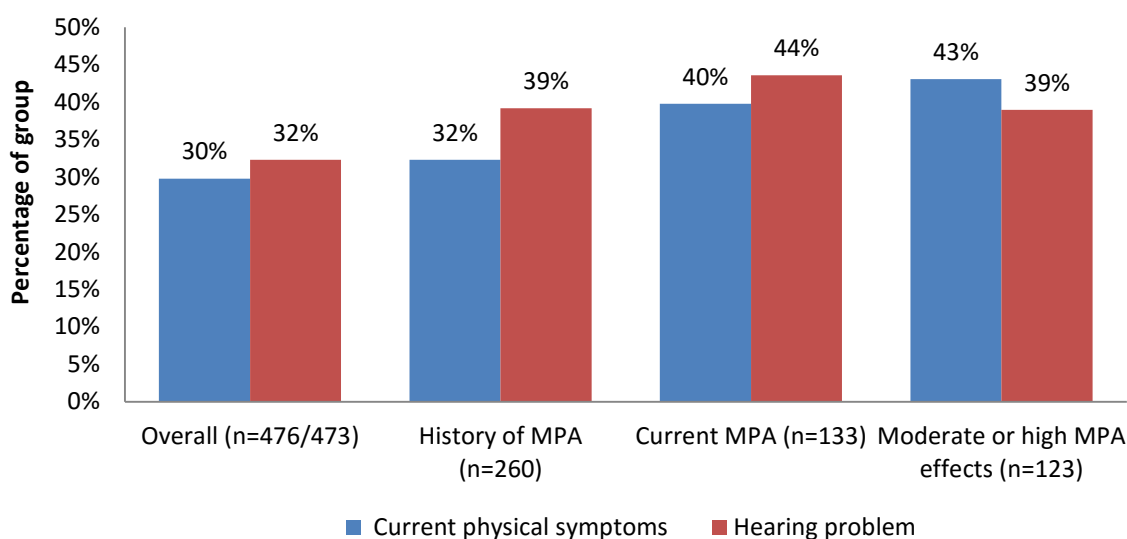


Figure 3.25: Report of physical symptoms and/or hearing problems by respondents who also reported MPA. *Note:* The total number of respondents in each group is shown under the group label. Overall results were drawn from 476 responses for physical symptoms and 473 for hearing problems. Responses are not mutually exclusive.

3.2.5 Summary of associations (Figure 3.26)

There were constellations of significant associations between respondents' demographic characteristics and educational pathways (as shown in Section 3.2.3) and their experience of PRPs (see solid double-headed lines in Figure 3.26). For example, reporting hearing problems was associated with instrument, genre of activities, and sex, all of which were associated with each other. Similarly, reporting MPA was associated with three factors (identity, performing activities and graduate status), all of which were associated with each other. Reporting physical symptoms was associated with teaching certain pupil age groups and performing activities (which are associated to each other) and instrument (which was not significantly associated with pupil age group or performing activities). MPA was also significantly associated with hearing problems and physical symptoms.

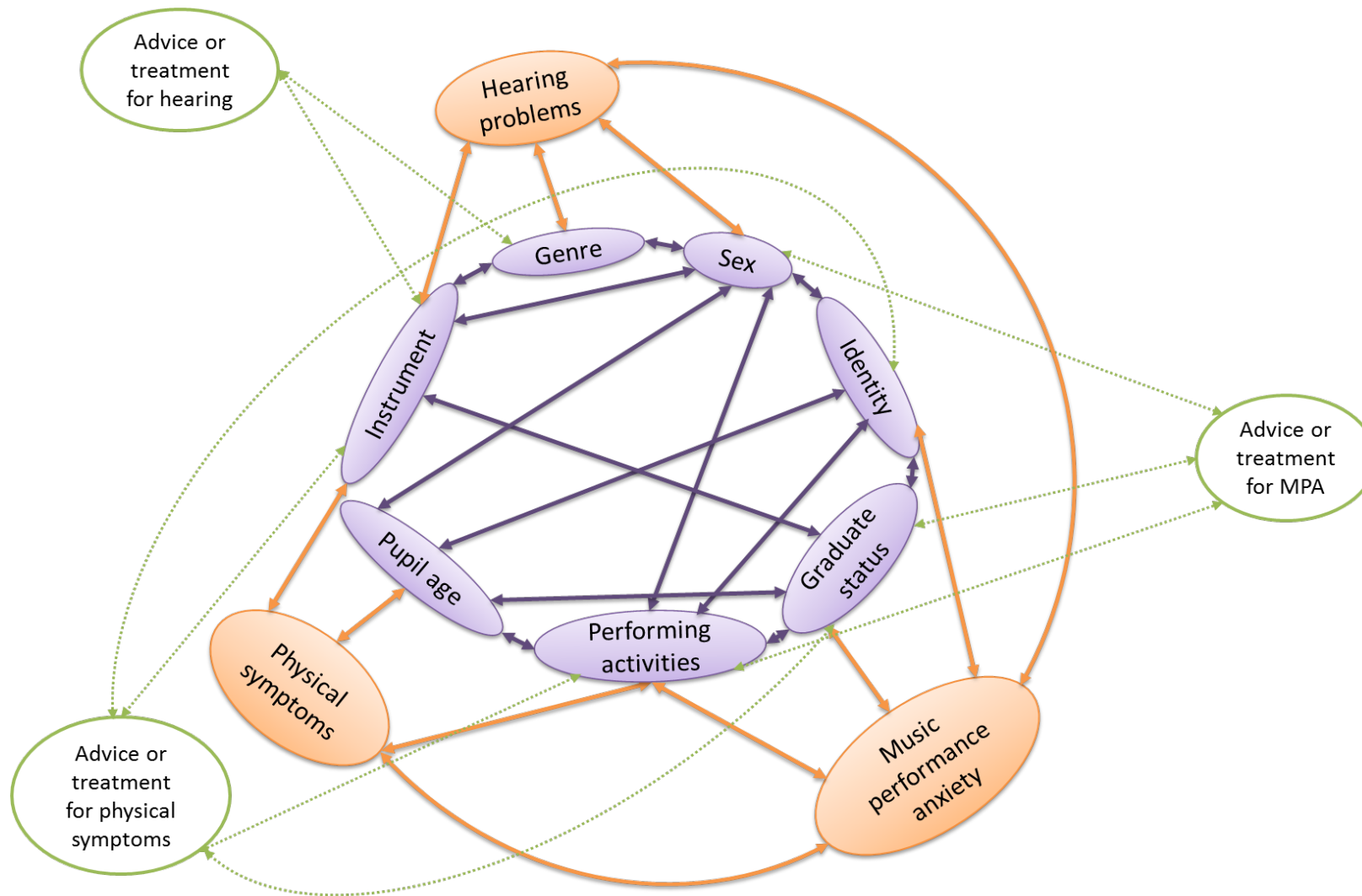


Figure 3.26: Associations between demographic characteristics, educational pathways, experience of PRPs, and reported advice and/or treatment for PRPs

The likelihood of respondents reporting that they had accessed advice/treatment for PRPs appeared to be linked to certain factors, as illustrated in Figure 3.25 using thin green double-headed arrows with dotted lines. These associations were not significant but are of interest for further study, especially as in some cases they were linked to factors that were not associated with the PRP for which respondents reported receiving advice. For example, accessing advice and/or treatment for physical symptoms was linked to identity and where/whether respondents had graduated whereas reporting symptoms was not. Results are added to this diagram in Section 5.1.3 to illustrate associations between factors illustrated in Figure 3.26 and respondents' answers to health-related questions.

3.3 Discussion

The first research question sought to explore the characteristics of musicians who were delivering instrumental and vocal teaching in the UK in terms of their demographic characteristics, educational pathways, and performance-related health. The findings of this study are explored below in relation to previous literature.

3.3.1 Demographic characteristics

Most of the teachers in this research were female, aged between 36 and 65, and/or self-identified as instrumental/vocal teachers. Previous studies with non-conservatoire-based teachers reported similar demographic characteristics (ABRSM, 2014; Creech, 2009; Mills & Smith, 2003). Given the predominance of female teachers in general education (Drudy, 2008) this weighting is more likely to reflect a gender imbalance in music education rather than a sampling bias. Some researchers have found a reversed gender imbalance among tertiary-level teachers (Barrowcliffe, 1999; Mills, 2006); the current study did not ask respondents to indicate where they taught but many taught pre-tertiary age pupils. The findings of this research suggest that a smaller proportion of male respondents are teaching pre-tertiary instrumental/vocal lessons in the UK which has implications for the provision of role models for young musicians. The range of respondents' ages (from 18 to 90 years) indicates that musicians engage in teaching throughout their lifetimes.

Manturzewska (1990) suggested that musicians become more interested in pedagogical issues as they get older; musicians aged 45-65 may be more likely to identify as teachers and therefore respond to a survey aimed at teachers. Research with teachers at conservatoires suggested that, over time, some respondents' identities shifted from 'performer' to 'teacher' (Mills, 2004). In the current study younger respondents were more likely to choose performance-focused identities whereas older respondents were

more likely to choose teaching-focused identities; these results suggest that there may be a shift in professional identity towards teaching as musicians get older but this needs to be investigated using a prospective, rather than cross-sectional, research design.

Respondents to the ABRSM (2014) survey were allowed to choose multiple professional identities therefore their primary identity was unclear. This difficulty was addressed in the present study by only allowing respondents to indicate their primary identity at the time. The four most common identity labels – instrumental/vocal teacher, musician, teacher-who-performs and performer-who-teaches – provide an insight into how musicians balance their performing and teaching activities. Previous research suggested that there may be a difference between musicians' professional and subjective identities (Huhtanen, 2004; Mills, 2004). Respondents who chose identities that incorporated performing were more likely to report participating in professional performing activities which, whilst not surprising, suggests that experience as a professional performer may affect whether teachers perceive themselves as performers or teachers. Previous research has suggested that self-perceived identities can influence engagement with training and qualifications (Mills, 2004); it is important to investigate this in future.

Respondents were highly likely to be teaching pupils from 'neighbouring' age groups (e.g. nursery and primary school) but not pupils from non-neighbouring age groups (e.g. primary school and young adult). Previous research has failed to take into account that most teachers engage with pupils from different age groups. The current study allowed respondents to choose multiple pupil age groups; this provided a more accurate reflection of respondents' activities. Future research could encourage respondents to indicate whether they primarily teach one age group or list their teaching activities more accurately by including pupil numbers and group sizes.

Most respondents taught keyboard, vocal, bowed strings, or woodwind instruments. The sample recruited by the ABRSM (2014) comprised mainly keyboard, woodwind, music theory and bowed strings teachers; respondents to that study were allowed to report all of their teaching instruments which precludes direct comparisons. Researchers should report which instrument respondents teach most often. It is not clear whether the low number of plucked strings, brass and percussion teachers who participated in the current study and the ABRSM survey was a result of the recruitment process or indicative of lower numbers of these teachers in the profession. Percussion and plucked strings teachers were more likely to be involved with other-than-classical activities therefore the

low representation of these instrument and genre sub-populations may be related. Future researchers should consult those involved in other-than-classical and brass/percussion/plucked strings teaching to aid recruitment of sufficient representatives and enable statistical comparisons between all groups.

3.3.2 Educational pathways and qualifications

Most respondents reported a school music qualification, Grade 5 theory certificate and at least one Grade 8 performance certificate. According to an ABRSM (2011b) poll most pupils would expect their teacher to have at least Grade 8 performance and most musicians surveyed by Welch et al. (2010) had followed similar educational pathways to teachers in the current study. Most of the ABRSM (2014) respondents had achieved a qualification at level 6 of the RQF or higher but they did not report which type of qualification had contributed to respondents' highest RQF level. This oversight was addressed in the current study by calculating respondents' highest RQF level overall and their highest RQF theory, performance, diploma, academic, and teaching qualifications. Music theory certificates were most commonly awarded at RQF level 2 (Grades 4-5) and performance certificates at RQF level 3 (Grades 6-8). Most respondents had not gained a RQF-recognised teaching qualification or diploma, but where they had the qualifications were most commonly awarded at RQF level 5 (equivalent to a Certificate of Education) or level 7 (equivalent to a PGCE). Diplomas were most common at RQF levels 4 and 6 which correspond to the ABRSM Diploma and Licentiate level diplomas.

Academic degrees were most commonly awarded at RQF level 6 (equivalent to a bachelor's degree) and contributed the highest overall RQF qualification for approximately two thirds of respondents. These results suggest that respondents were most highly qualified through tertiary-level courses, which highlights the importance of such institutions as educational platforms for exchanging information about pedagogy, health and well-being. Among this sample, bachelor's degrees were more commonly awarded by universities and postgraduate degrees by conservatoires. At present, most health promotion initiatives are taking place in conservatoires making it even less likely that university graduates received health-related information during their degrees. If the educational pathways represented in this study are typical of the instrumental/vocal teaching profession then future efforts should focus on engaging university musicians in health promotion during their bachelor's degrees. The Henley Review of Music Education (2011) recommended that conservatoires should play a greater part in the development

of a performance-led music education workforce of the future and that all conservatoire graduates should study for a certificate in music education. The results of the current research suggest that this recommendation should be extended to include university music departments and their graduates.

Most respondents who reported less than ten years' experience did not report holding a teaching qualification. A large proportion reported that they had graduated but very few UK music degrees include mandatory pedagogical skills modules. More experienced teachers had generally accrued more qualifications; however, many UK music teaching qualifications are competency-based and primarily assess what teachers have already learned. Less than 10% of respondents had taken accredited non-competency based courses that relate specifically to the instrumental/vocal teaching environment. Previous literature has suggested that the UK music teaching profession is largely unregulated as the skills of new teachers are likely to be based on their "apprenticeship of observation" (Lortie, 1975) and 'on-the-job' learning (Haddon, 2009); the findings of this study support those assertions. A large proportion of respondents reported attendance at various CPD courses despite the previously suggested financial difficulties associated with paying for courses and missing work (see Section 2.5.2). CPD courses offer valuable educational platforms and those seeking to introduce professional development courses should collaborate with organisations that already offer courses.

3.3.3 Performance-related problems

Nearly 90% of respondents reported that they had experienced physical symptoms, MPA, and/or a hearing problem and 60% reported experiencing at least one PRP at the time of the study. It has been suggested that that 50-75% of professional orchestral musicians suffer from a condition that affects their performing activities (Ginsborg, Spahn, & Williamon, 2012). The results of the current study indicate that PRPs are as prevalent among musicians who are teaching as they are among musicians who are performing. PAM research must not ignore music educators: they are a sub-population of musicians who are affected by PRPs and furthermore, as musicians affected by PRPs, their role as advocates of prevention may be increased (Zaza, 1993).

Physical symptoms

Nearly two thirds of respondents reported a history of physical symptoms and nearly a third were experiencing symptoms at the time of the study. In the limited number of previous studies investigating instrumental/vocal teachers' health, PRPs were defined in

different ways (see Section 2.1.5). The primary symptom of PRMDs is pain (Porter et al., 2003) but other symptoms – such as weakness, paralysis, lack of control, numbness, or tingling – are also associated with PRMDs (Watson, 2009; Zaza & Farewell, 1997; Zaza et al., 1998). Therefore, respondents to the current survey were asked to indicate whether they had experienced any of the symptoms listed above. The prevalence of physical symptoms among respondents in the current study is higher than that reported by early American studies (Brandfonbrener, 1989; Quarrier, 1995; Barrowcliffe, 1999) but lower than reported more recently among Swedish teachers (Fjellman-Wiklund et al., 2003; Edling & Fjellman-Wiklund, 2009). Fewer vocal teachers in this study reported vocal problems compared with previous research (Camarota et al., 2007; Miller & Verdolini, 1995; Phylant et al., 1999); this may be because they were asked to report vocal problems in the context of physical symptoms rather than in response to a separate question. Until there is an agreed definition of PRPs it will be difficult to compare their prevalence as reported by different investigators. The current findings indicate that physical symptoms are common among instrumental and vocal teachers in the UK.

Physical symptoms were reported most frequently by respondents who taught primary school pupils, those with amateur performing experience, and/or bowed strings and woodwind teachers. Teaching primary school children may expose teachers to more risk factors (e.g. arranging classrooms, carrying music and moving pupils' instruments; see Fjellman-Wiklund et al., 2003). Female teachers in the present study were more likely to be teaching primary school children, and Fjellman-Wiklund et al. (2003) suggest that the strongest risk factors for PRMD among female teachers in their study were high psychological demands and teaching at many schools. A greater proportion of amateur performers reported physical symptoms compared with professional performers perhaps because i) there are factors intrinsic to amateur performance that cause physical symptoms; ii) respondents who experienced physical symptoms chose to engage in amateur rather than professional performance; or iii) there are fewer resources available to help amateur performers manage physical symptoms. Alternatively, previous researchers have commented on a 'culture of silence' relating to professional performers reporting PRPs (Brandfonbrener & Lederman, 2002; Patston, 2014; Wristen, 2013); it is possible that professional performers who responded to the current study were reluctant to disclose symptoms despite assurances of anonymity. Engagement in amateur performance can have a positive influence on the health of individuals and communities

(Theorell & Kreutz, 2012) but Gembris (2012) suggested that there must be a balance between “health as a resource for making music and making music as a resource for health” (p. 371). The results of the current study and research by Dawson (2001) indicate that amateur performers may be affected by physical symptoms that affect their ability to play or sing. Findings of this study suggest that there may be associations between reporting physical symptoms and respondents’ performing/teaching activities: further research is needed to identify risk factors and investigate the effects of teaching environments and lifestyle on health.

Reporting physical symptoms was not significantly associated with respondents’ sex in this study or a seminal study by Brandfonbrener (1989-90); she suggested that other contributing factors (e.g. lifestyle, stress, performing activities, instrument, and hypermobility) needed to be investigated. In this study reporting physical symptoms was associated with instrument, pupil age group, and performing activities which were in turn significantly associated with respondents’ sex. Prospective studies should investigate teaching environments in more detail as risk factors within those environments may confound the relationship between sex and physical symptoms reported by previous researchers (Kenny & Ackermann, 2015; Ranelli et al., 2011; Wu, 2007).

Over half of the teachers in the current study, like the American piano teachers investigated by Redmond and Tiernan (2001), had sought advice and/or treatment for physical symptoms. While American teachers obtained advice from musicians more often than consulting HCPs, respondents to the present survey were more likely to consult physiotherapists or doctors and only 12 had consulted musicians. It is not clear whether these differences were a result of cultural differences, historical differences or survey design. Tertiary-level musicians at a UK conservatoire reported that they were most likely to seek advice for physical symptoms from their instrumental/vocal teacher (Williamon & Thompson, 2006). While music pupils may view their teachers as a ‘first port of call’ for advice, their teachers may not have access to similar support from other musicians and may therefore turn to other sources. In the present study, those who taught bowed string instruments were more likely than others to consult physiotherapists, those who chose performing-focused identities and/or had achieved a higher RQF level were more likely have had Alexander Technique lessons or seen a physiotherapist, and those who had performed professionally were more likely to have seen an osteopath. These results suggest that musicians engaged in certain teaching and/or performing activities may

develop problems that require assistance from different disciplines or seek help in different ways. Alternatively, there may be greater access to healthcare in tertiary-level educational and/or performing environments or an increased need to seek help among those engaged in performing activities. Future research should investigate where different musicians choose to seek help from, and their experiences with that healthcare.

Over half of the respondents who had experienced physical symptoms for more than a month did not report a related diagnosis. This may be because they had not accessed appropriate healthcare; however many PRMDs are not based on underlying conditions therefore diagnoses may not always be necessary when musicians experience physical symptoms. In 2014, the two most common outcomes of an appointment at a BAPAM clinic were that the patient received information about their condition (65% of patients) or healthy performance advice and self-help recommendations (54% of patients).⁹⁶ Changing habits is notoriously difficult and time-consuming but the number of respondents who had experienced symptoms for more than a year suggests that they may not have received the advice and/or treatment needed to alleviate their symptoms or were unable to modify their activities or environment, regardless of whether or not an associated diagnosis would have been appropriate.

Compared with the teachers involved in research by Redmond and Tiernan (2001), a greater proportion of teachers in the current study had sought advice from a HCP. In recent years PAM education has been improved, for example through the introduction of the first MSc in PAM and regular workshops for HCPs involved with BAPAM. The increased number of teachers seeking help from HCPs could indicate that healthcare for musicians is better in the UK now than it was in America 15 years ago. The current research is the only study investigating UK instrumental/vocal teachers' use of healthcare and the results suggest that teachers are seeking help from HCPs. The most common advice and/or treatment strategies reported by respondents in this study were physical and massage therapy, basic medical advice, body awareness lessons or a reconsideration of instrument-related factors. Butler and Winspur (2009) suggest that musicians should only undergo surgery once all other treatment options have been tried or if surgery is the only appropriate option; only eight teachers in the current study had undergone surgery and they had also consulted a variety of other healthcare providers. Many respondents had consulted physiotherapists supporting the assertion that physiotherapists may be well-

⁹⁶ These figures are drawn from the BAPAM (2014) *Clinics activity and feedback report*.

suitable to treating physical symptoms (Hallam & Gaunt, 2012; Rosset i Llobet & Odam, 2007; Tomlinson, 2012; World Confederation for Physical Therapy, 2011). A high proportion of respondents had taken Alexander Technique lessons and viewed this activity as treatment for physical symptoms. A large-scale randomised control trial indicates that Alexander Technique may be a cost effective and effective option for treating chronic and recurrent back pain, when combined with exercise (Hollinghurst et al., 2008; Little et al., 2015). Further research is needed to investigate teachers' experiences with healthcare providers in detail with a view to (further) improving the level of care that is offered; this care has a bearing on teachers' personal health, and also the health of their pupils (as discussed in Chapter 5).

Music performance anxiety

Over half of the teachers who responded to this study had experienced MPA that negatively affected their musical activities. It is difficult to compare these results to previous surveys as most relate to performing musicians, are outdated, and utilise ambiguous and/or contrasting terms (e.g. Fishbein et al, 1988; James, 1998; Kenny & Ackermann, 2015; van Kemenade et al., 1995). The results of a Help Musicians UK survey (2014) indicated that a large proportion of UK musicians reported experiencing 'performance anxiety that affects their musical lives'. The use of a rather vague definition in that survey, and the fact that results were not divided according to whether or not respondents were teaching, makes it difficult to compare results. The prevalence of MPA among UK teachers had not previously been investigated. The results of two small-scale American studies (Kirchner, 2002; Wesner et al., 1990) suggest that MPA may be common among music teachers. Within the scope of this study it would not have been possible to administer the battery of tests used by Kenny and Ackermann (2015) with professional orchestral musicians but, given the prevalence of MPA reported by respondents to the current research, further investigation using standardised measures is warranted.

Reporting MPA in the current study was more common among female respondents, those with a teaching-focused identity, who had graduated from a university, and/or reported amateur performing experience. Most previous research indicates that women are more likely than men to experience general anxiety (American Psychiatric Association, 1994) and MPA (Kenny & Ackermann, 2015; Osborne & Franklin, 2002; Thomas & Nettelbeck, 2013); however, some research found no difference between the percentages of men and women reporting MPA (Rae & McCambridge, 2004; Fehm & Schmidt, 2006).

The association between sex and MPA was not significant in this study and further research using standardised measures is needed. Results relating to professional identity, type of degree and performing activities suggest that there are differences among the teaching population in terms of those who report MPA and those who do not. With a cross-sectional design it is not possible to ascertain the direction of cause: are musicians who see themselves as 'teachers' more likely to experience MPA, or do musicians who experience MPA choose to dedicate themselves to teaching? Patston (2014) suggested, based on unpublished data, that some of the musicians who discontinue their performing career as a result of debilitating MPA go on to become teachers. Do musicians who experience MPA choose neither to continue studying after graduating nor look for opportunities to perform professionally? Or do those who study at post-graduate level and perform professionally learn coping strategies for MPA? Several researchers have referred to a 'survivor bias' or 'healthy worker effect' (Engquist et al., 2004; Gupstill, 2011a; 2011b; Nyman et al., 2007; Ranelli et al., 2015) whereby those who reach a certain level of performance are those who did not cease musical activities because of health problems. Alternatively, it may be that the 'culture of silence' around reporting MPA is still more prevalent among conservatoire students and professional musicians so fewer respondents in these categories chose to report their symptoms. Research is needed to investigate whether exposure to risk factors can be decreased for those who may be more at risk of developing, or not managing, MPA.

In the current research conservatoire graduates and those who reported performing professionally were less likely to report current MPA but more likely to have received advice and/or treatment compared with university graduates and/or those who had not performed professionally. These results suggest that support may be more readily available to conservatoire students and professional performers or alternatively that musicians in those environments are more likely to seek advice. However, a higher proportion of female respondents reported MPA and advice and/or treatment for MPA suggesting that a different mechanism may be involved: possibly the long-held notion that females are more likely to report their symptoms than males, or that they are more susceptible to MPA. Further research is needed to investigate why some teachers access advice and/or treatment for MPA, and their experiences of receiving relevant healthcare.

Factors associated with reporting MPA in this study – i.e. a teaching-focused identity, amateur performing experience, and studying at a university – were also associated with

teaching pre-tertiary pupils. Respondents who were less likely to report MPA – i.e. conservatoire graduates, those with a performing-focused identity, and/or professional performing experience – were also less likely to be teaching pre-tertiary pupils. Research has suggested that instrumental/vocal teachers can influence the development of anxiety in their pupils (Stevanovic, 2015; Stoeber & Eismann, 2007) and Patston (2014) suggested that the development of MPA may be reinforced in the education sector. If teachers experience, and are unable to manage, MPA then supporting the psychological health of those who teach younger pupils is of the utmost importance for their own sake and so that they can help their pupils to learn how to perform confidently.

Hearing problems

Approximately a third of respondents reported that their hearing was affected in some way. These results seem low considering that previous research indicates that music teachers are exposed to unsafe levels of noise (Cutietta et al., 1994; Edwards, 2001; Zivkovic & Pityn, 2004). In the current study, reporting hearing problems was more common among male teachers, plucked strings, brass and percussion teachers, and teachers engaged in other-than-classical activities. These sub-populations were among the least represented in the current sample possibly contributing to the relatively low prevalence of hearing problems reported. Nearly half of respondents to the Help Musicians UK survey (2014) reported hearing problems that affected their musical activities. Help Musicians UK respondents were involved in a range of musical activities and not necessarily engaged in teaching; it is possible that there are a greater number of risk factors in non-teaching environments. Alternatively, respondents to the Help Musicians UK survey were asked to indicate whether they had experienced 'hearing issues' whereas respondents to the current study were asked specifically about noise-induced hearing loss. Research using clinical measures and sound-measuring devices is needed to investigate the noise exposure of UK instrumental/vocal teachers and establish whether their hearing is negatively affected as a result of noise exposure during teaching.

Relatively few respondents had received advice about hearing and even fewer gave details of the advice that they had received. The most commonly reported strategies for coping with hearing problems were to wear hearing protection or avoid loud environments. Despite being among the most likely to be affected by hearing problems, approximately half of the plucked strings and percussion teachers had not received hearing-related advice. The results of this research indicate that many instrumental/vocal

teachers had not received advice regarding how to prevent hearing problems and were therefore unlikely to be conveying appropriate advice to their pupils. Further research should ask teachers whether they have received advice about hearing regardless of whether they have experienced symptoms as, in many ways, receiving advice after experiencing hearing-related symptoms is too late.

Co-morbidity of performance-related problems

The majority of respondents who had experienced physical symptoms had received advice and/or treatment, usually from a HCP. Efforts have been made over recent years to inform musicians about musculoskeletal health and provide clinical support; the results of this study suggest that these efforts may have been successful. However, although fewer respondents reported experiencing MPA, the proportion of respondents who had received MPA-related advice and/or treatment was much lower than for physical symptoms. Likewise, very few respondents had accessed hearing advice. It is possible that MPA and hearing-related advice are not yet consistently available, that teachers are not aware of available support, or they are reluctant to access support. Research is needed to investigate why teachers choose to engage with advice and/or treatment for various PRPs, and what could be done to facilitate access to relevant and reliable resources and services. Respondents who reported MPA were more likely to also report physical symptoms and/or hearing problems than those who did not report MPA. These results suggest that MPA may occur co-morbidly with other PRPs, as identified by previous research (Guptill, 2011a; 2011b; Kenny & Ackermann, 2015; Ranelli et al. 2015; Wristen & Fountain, 2013). It is not clear from this study whether MPA is a trigger for physical symptoms and hearing problems or an outcome of experiencing these conditions. Further research is needed to investigate the overall health of instrumental/vocal teachers to understand the inter-linked effects of the PRPs reported in this study, and also other conditions such as occupational stress and burnout.

3.3.4 Summary of chapter

In this chapter I reported survey study results relating to the demographic characteristics, educational pathways, and PRPs of a large group of UK instrumental/vocal teachers. In the next chapter I will address the second research question by exploring survey respondents' health-promoting behaviours and interview participants' perspectives on collaborative approaches to health promotion for musicians.

Chapter 4: RQ2 Methods, Results, and Discussion

This chapter addresses the second research question:

To what extent did teachers report promoting their pupils' health? How did they report doing so?

Information presented in this chapter relates to the survey and interview studies: relevant survey results are presented in Section 4.1, interview study methods and results are presented in Section 4.2, and all results are discussed in Section 4.3 in relation to previous literature.

4.1 Survey study results

4.1.1 Introduction

Survey results presented in this chapter are drawn from responses to Questions 29-34 (see Appendix B), which were completed by 424 respondents. Responses to Questions 29, 31, and 32 were analysed separately (according to the question they related to) initially, and then collated into one data set when it became clear that key themes recurred across responses to different questions and that respondents referred to comments made in response to previous questions.⁹⁷ To maintain transparency and ensure a rich description of the entire data set an overview of the initial analyses is shown below using thematic maps (see Figures 4.1, 4.2, and 4.3; an explanation of the typographical characteristics of these maps was given in Section 3.1.4). The results of Question 33 are presented followed by the results of the thematic analysis of the full data set and responses to Question 34.

Question 29: Beliefs about responsibility for pupil well-being

Respondents were invited to explain why they believe teachers are, or are not, responsible for pupils' health and well-being. Respondents who did consider teachers to be responsible were asked what form that responsible behaviour might take and who else it would involve. Those who did not believe teachers are responsible were asked to explain why not, and who they think should be responsible. Comments were supplied by 420 respondents and five themes were identified. Results relating to these themes are

⁹⁷ Braun and Clarke (2006) define the data corpus as all data collected for a particular project and the data set as the data from the corpus being used for a particular analysis. They suggest that a data set can be defined by the type of data item (individual pieces of data collected that make up the data corpus) or topic of interest.

discussed in Chapters 4 and 5 according to whether they relate to respondents' reported health-promoting behaviours (Chapter 4) or factors that influenced their behaviours (Chapter 5). Table 4.1 summarises the themes and division of material between Chapters 4 and 5. Figure 4.1 illustrates the key themes and sub-themes included in each theme.

Table 4.1: Division of Question 29 themes between Chapters 4 and 5

	Chapter 4	Chapter 5
Shared responsibility	✓	
Position of responsibility		✓
Responsibility for general and/or performance-related health	✓	✓
Factors affecting extent of responsibility		✓
Miscellaneous	✓	✓

Question 31: Adapting the instrument and/or environment

Respondents were asked to give examples of how they help pupils adapt their instrument and/or environment; 411 respondents provided a response but of them 11 reported that the question was not applicable or they did not wish to answer. Figure 4.2 shows factors that were adapted and the number of respondents who referred to each factor. All of the responses to this question are presented in Chapter 4.

Question 32: Discussion of PRPs with pupils

Respondents were invited to indicate whether they discuss topics relating to musculoskeletal problems, noise-induced hearing loss, MPA or any other performance-related concerns with pupils; if they did not they were invited to explain why and if they did they were asked to give examples. A total of 426 provided a response, of whom ten reported that they had written about this in response to a previous question. Forty-three reported that they did not discuss PRPs, 12 of whom commented that problems have never arisen or the topic is not applicable because their pupils are young, beginners, not performing regularly, or do not experience PRPs. Responses from the remaining 373 respondents related to discussion of MPA, physical symptoms, and/or performance preparation (see Figure 4.3); these responses are explored in this chapter. Results relating to 'Personal experiences' and 'Topics vary according to pupils' needs' are presented in Chapter 5.

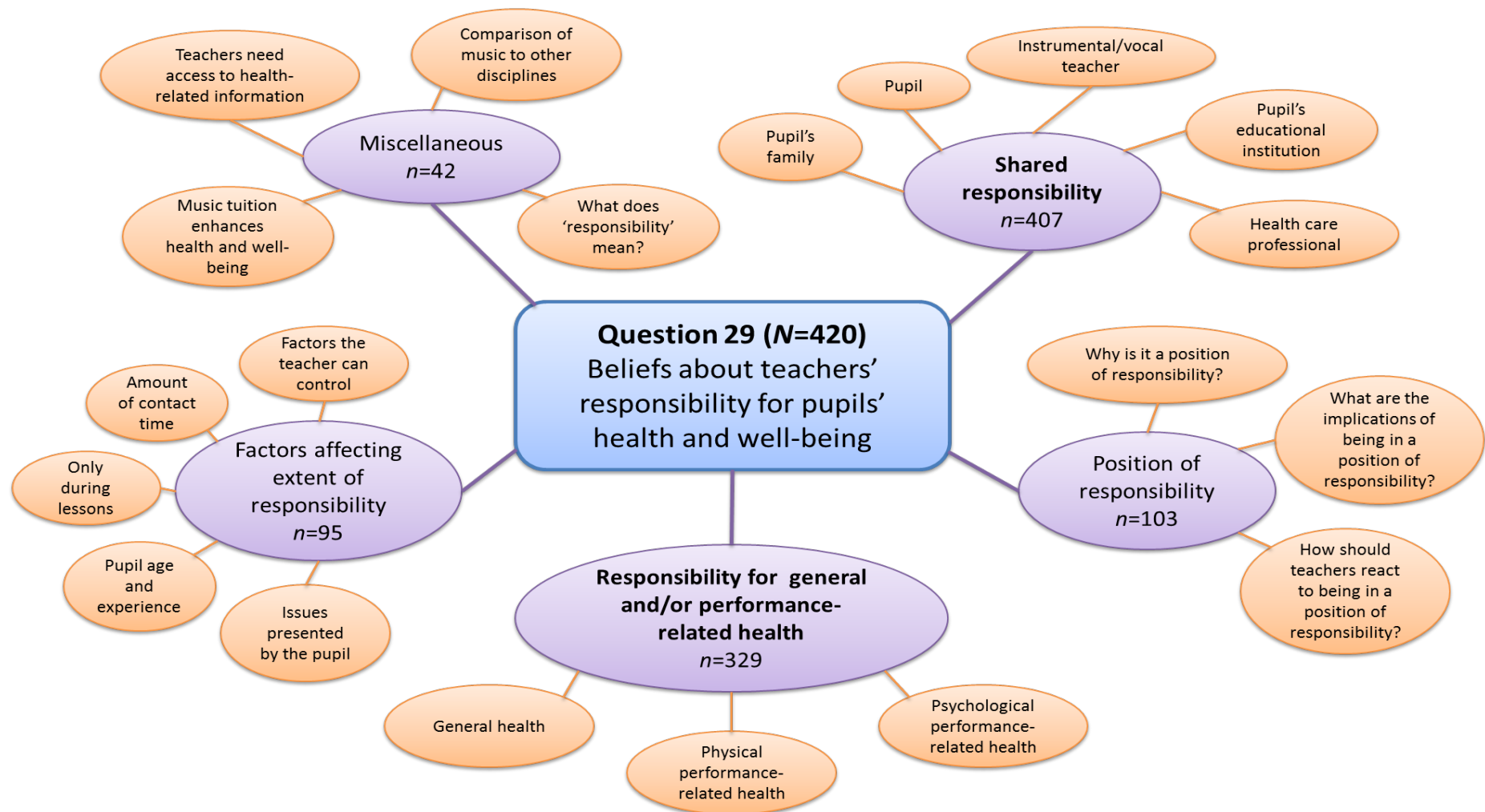


Figure 4.1: Overview of themes identified following analysis of Question 29. *Note:* A total of 420 responses were included in this theme. The number of responses that were included in each sub-theme is indicated in the purple bubbles.

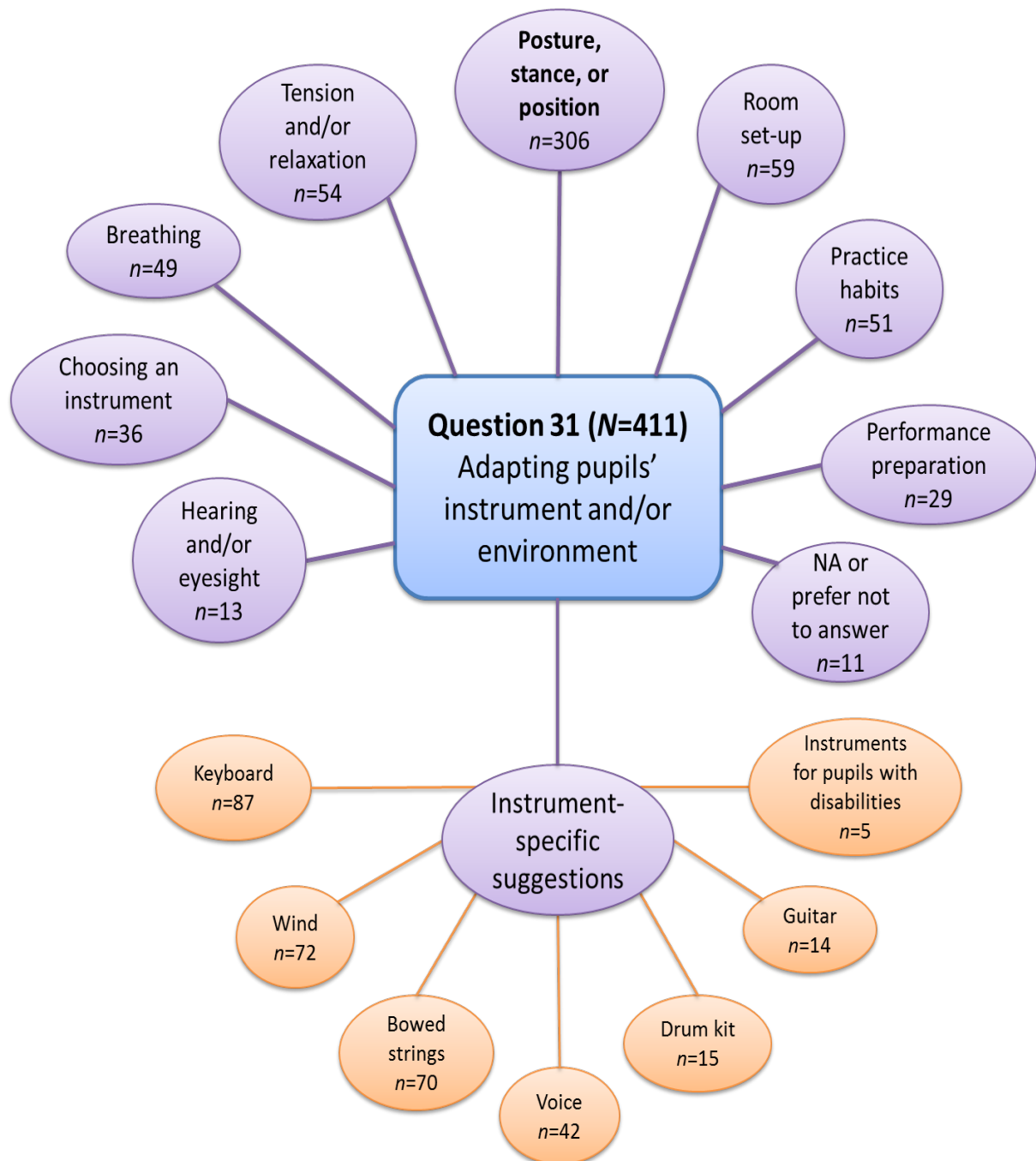


Figure 4.2: Overview of themes identified following analysis of Question 31. *Note:* A total of 400 responses were included in this theme. The number of responses that were included in each sub-theme is indicated in the purple bubbles.

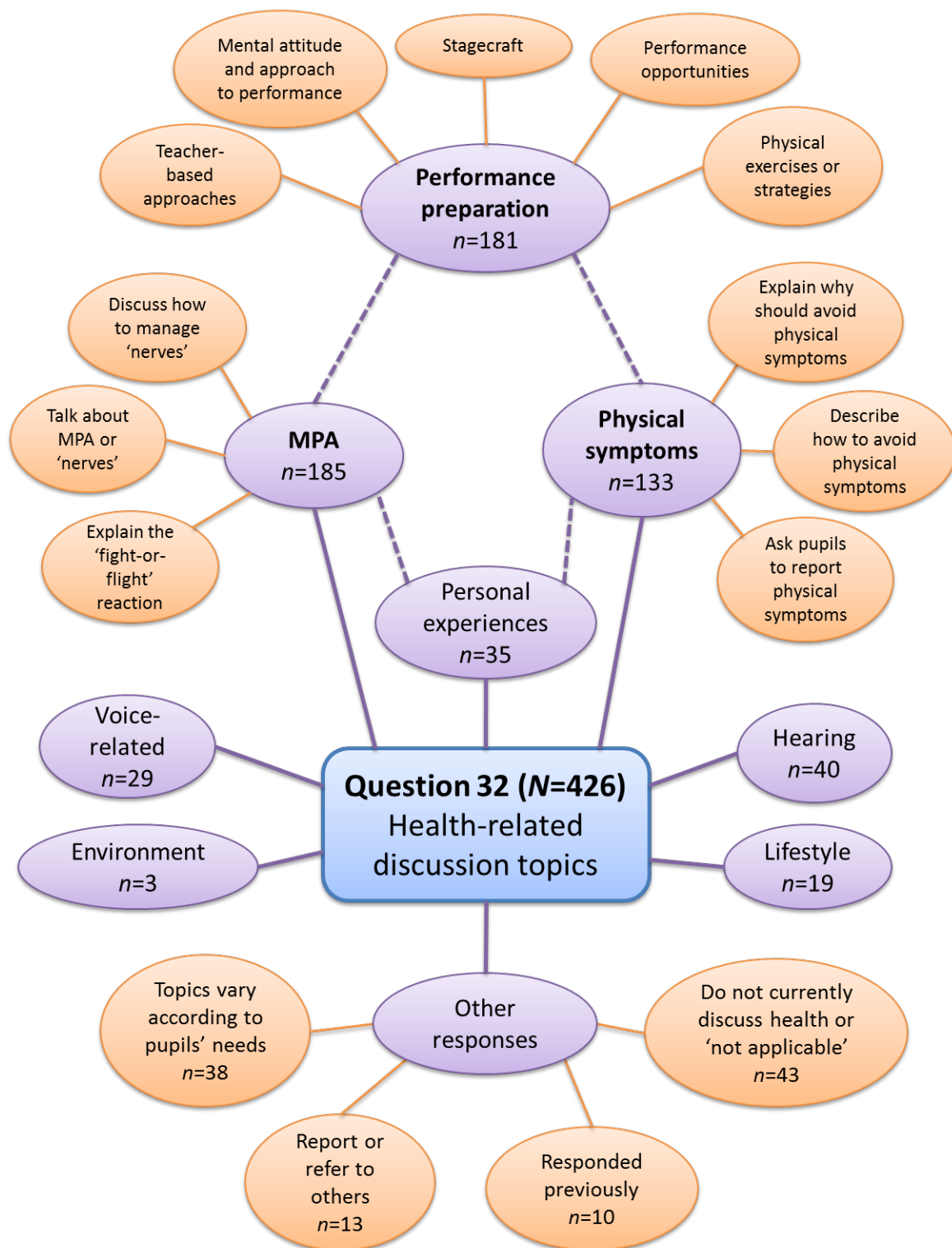


Figure 4.3: Overview of themes identified following analysis of Question 32. *Note:* A total of 426 responses were included in this theme. The number of responses that were included in each sub-theme is indicated in the purple bubbles.

4.1.2 Categories of response

Respondents indicated whether they offer advice to pupils with a PRP and/or refer them onwards by choosing one of six options (see Figure 4.4) or using an 'other' box. The most common response from the 21 respondents who used the text box was that they had not seen a pupil with a PRP that was severe enough to warrant referral to an HCP: e.g. "I haven't yet felt the need to refer someone on, but if I felt unable to help, I would" (R467), and "I have not had to deal with this issue, but were it to crop up, I would probably offer advice and refer them to other teachers" (R243). Four respondents suggested that problems should be resolved by the pupil or their parents and three reported that they were uncertain what they would do: e.g. "I have never thought to refer them to someone else" (R170) or "would not be confident where to refer them" (R245).

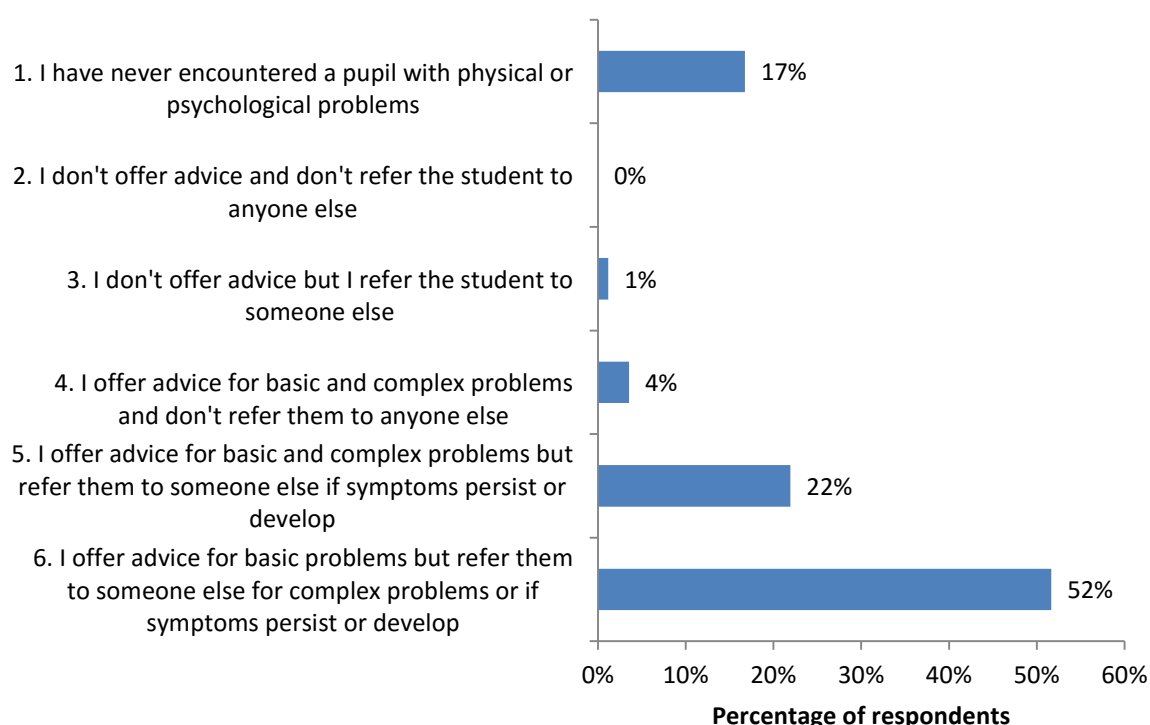


Figure 4.4: Advice and/or referral for pupils with a PRP (N=403)

In total, 77.1% of respondents ($n=327$ of 424) reported offering pupils at least some advice and 74.7% ($n=317$) reported referring pupils to someone else (either straight away or after offering preliminary advice). The concepts of listening to pupils and providing advice or sending them elsewhere for help were referred to frequently in response to Questions 29, 31, and/or 32. For example, in response to Question 29 nearly a quarter of respondents (24.5%, $n=103$ of 420) described teaching as a position of responsibility (see Section 5.1.1. for more details). Of those respondents, 73.8% ($n=76$) recommended a variety of responses to scenarios that may arise as a result of being in a position of

responsibility: i.e. teachers should advise their pupils ($n=55$), problems should be reported to an appropriate person ($n=23$), and/or teachers should refer pupils onwards ($n=14$). These responses were not mutually exclusive as some respondents advocated a combination of these approaches, as shown by the illustrative quotation below:

...I think it is of vital importance that a teacher is willing and ready to exercise their duty of care towards any pupil who is in difficulties. This includes: noticing physical ailments; encouraging medical intervention where appropriate; teaching good technique that will obviate practice-related physical stresses; asking pupils about their school/university/work life on a regular basis; listening to and talking through (if appropriate) personal worries or problems raised by the student; reporting as appropriate any concerning behaviour or changes in behaviour...(R170)

The recurrence of a division between listening to and advising pupils or reporting/referring them onwards led to the establishment of two higher order themes: 'Listen and advise' (data presented in Section 4.1.3) and 'Report or refer' (data presented in Section 4.1.4).

4.1.3 Listen and advise

Respondents rated the extent to which they spent time helping pupils adapt their instrument and/or environment (see Figure 4.5).

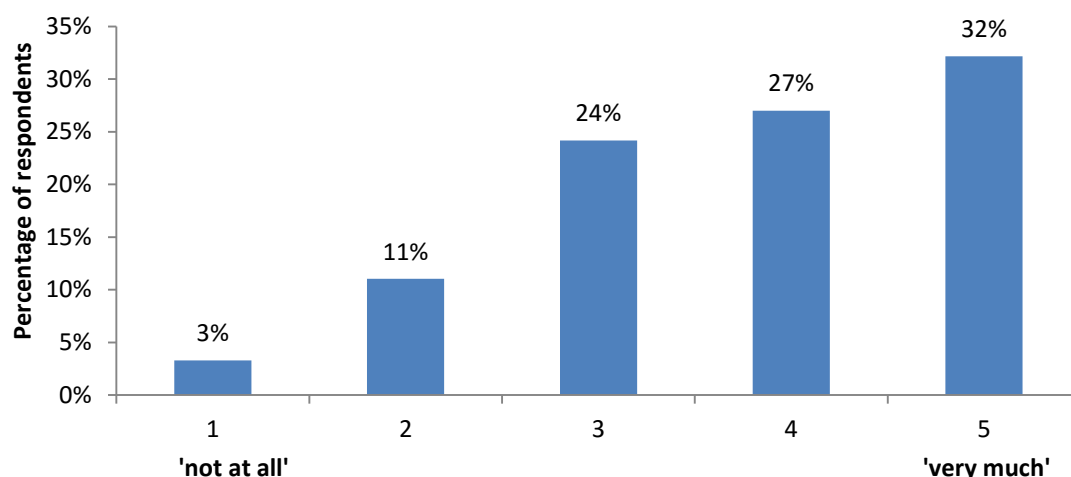


Figure 4.5: Time spent helping pupils to adapt their instrument and/or environment ($N=416$). *Note:* Ten respondents did not choose a numerical rating but used an open-ended 'other' box to answer. The Likert scale ranged from 1 'not at all' to 5 'very much': the mean ranking was 3.75 ($SD=1.13$), the median was 4 and the mode was 5.

In response to Questions 29, 31, and/or 32 respondents reported that they listen to and advise pupils about general health, and/or performance-related health. These themes are discussed in detail below.

General health

Nearly a third of respondents (30.9%, $n=130$ of 420) suggested that teachers are at least partially responsible for pupils' general health: this included home/school life ($n=56$) and/or overall well-being/fitness (87). Respondents suggested that teachers should be aware of pupils' general health ($n=27$), listen and provide advice (63), listen/advise then report/refer if necessary (25), or just report/refer (6). These themes are illustrated in Figure 4.6 and results relating to listening and advising are reported below.

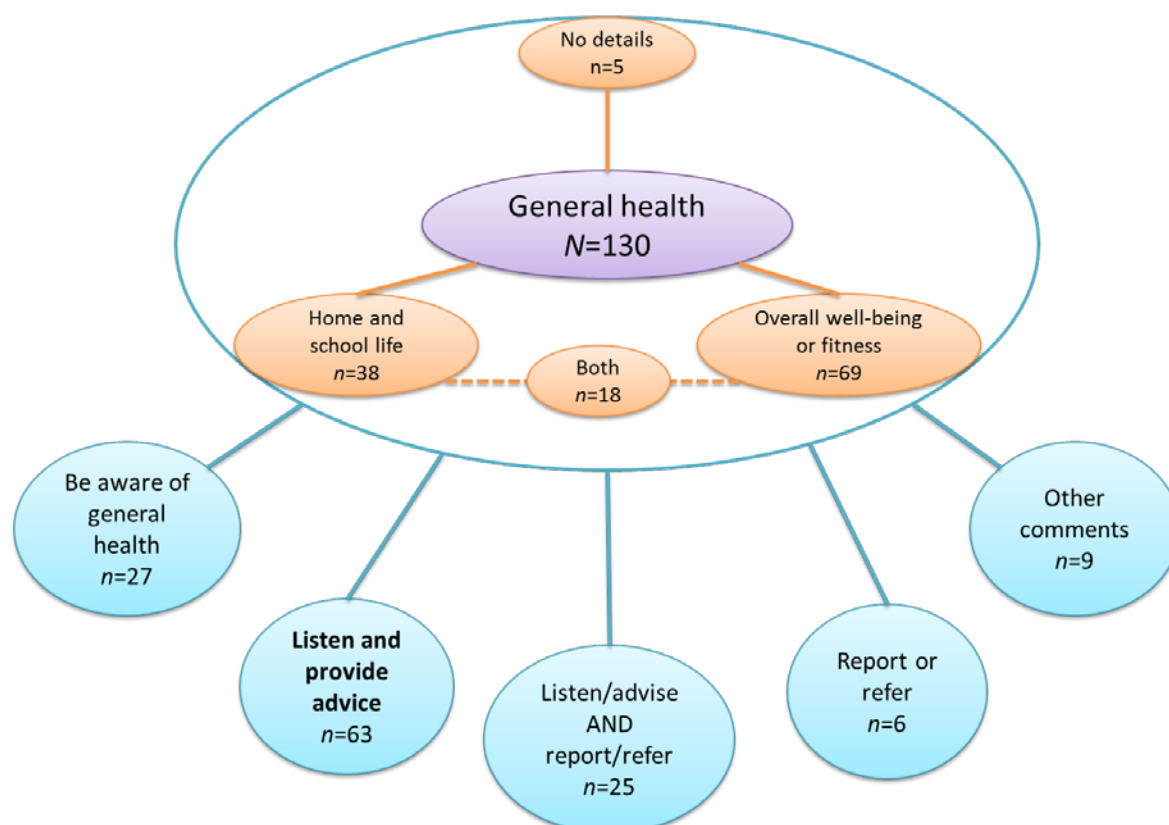


Figure 4.6: Themes relating to perceived responsibility for general health. *Note:* These themes were drawn from responses to Question 29.

Being aware of pupils' home/school lives was advocated, for example, as "a matter of courtesy and part of the on-going communication process" (R9), and because a teacher's interest "will increase [pupils'] self-esteem and have a positive effect on their psychological health and social well-being" (R554). A detailed comment relating to awareness of pupils' personal circumstances is shown below:

Musical tuition, if given on an individual basis, cannot be undertaken without a certain amount of knowledge of the pupil's personal circumstances...If there are underlying issues that relate their general learning this will also apply to their musical learning. It is therefore really important to understand each pupil and this includes their general health and wellbeing... (R560)

A few respondents suggested that teachers should be “sensitive to the health and well-being of their pupils if it affects the pupil’s playing, performance and attitude in lessons” (R140). Some respondents stated that because general health is intrinsically linked to performance-related health teachers must be aware of pupils’ general health: e.g. “it is not possible to play well and enjoy performing unless one’s general psychological well-being is good” (R457). A vocal teacher commented as follows:

With singing in-particular the instrument is the voice and the voice is a part of the body and the body is the shell for the voice, the whole body needs to be in good working order for the singer to reach his or her potential...If something is wrong with the body it will affect the voice so it is my responsibility, as a voice teacher, to help heal all parts of the body that affect the quality of the voice... (R249)

Some respondents suggested that teachers should listen to pupils and provide advice relating to pupils’ home/school life: for example, a vocal teacher (R150) reported that listening, allowing pupils to express problems, providing tea and sympathy, and helping a pupil realise that their problems are universal can be helpful. Another woodwind teacher commented that they sometimes feel “in loco parentis for some [pupils] who are coping with issues of growing up (diet, fitness, coping with stress, alcohol intake, issues in relationships and general health questions)” (R250) and a keyboard teacher remarked that they act as a mentor to students away from home (R310). These issues were not restricted to young pupils, as a vocal teacher commented: “many adult vocal students come with lots of ‘baggage’ which, if they are to sing successfully, one must help them get past” (R124). A woodwind teacher suggested that “the teacher should encourage a balance in their pupils’ lives” (R195) and a few respondents gave examples of instances where they had helped pupils to deal with problematic situations. Forty respondents suggested that teachers are in a position to provide advice about overall fitness and/or well-being (see Table 4.2).

Table 4.2: Examples of advice relating to overall fitness and/or well-being

R#	Illustrative quotations
225	...We are not responsible for their health based on dietary or exercise requirements, though can advise if the need arose. This is also true of other health aspects such as smoking and drinking.
290	...Health advice such as correct diet and advice regarding hearing related issues is important. Also basic common-sense advice on staying mentally healthy is important...
607	...I strongly believe that teachers have a responsibility to actively educate pupils in good general health terms in addition to health issues specific to the instrument - this would include physical, mental and emotional health.
625	A student's overall well-being and health will affect their musical performance and as such the teacher has a responsibility to ensure that significant time is spent of health education, especially in the areas of psychological health related to performance.

An additional 22 respondents provided advice relating to vocal health; they commented that pupils need to be ‘fit to sing’, ‘the body is the student’s instrument’ and they need to make sure that pupils can ‘sing at the optimum capacity’. In particular, respondents mentioned refusing to teach pupils who are ill, providing advice about hydration and exercise, suggesting vocal warm-ups, and advocating that pupils do not smoke, drink or abuse the voice by shouting loudly: see Table 4.3 for examples of the advice given.

Table 4.3: Examples of advice relating to general health from vocal teachers

R#	Illustrative quotations
30	... I think the teacher is responsible for cultivation of healthy habits such as making sure the student drinks enough during rehearsal, looks after their voice and doesn't put it under unnecessary stress, gets sufficient rest and cultivates a sound technique, and recognises the warning signs of any vocal problems early enough to prevent damage.
206	Will not teach a pupil with a sore throat or cough. Advised to rest and take honey lemon and ginger drinks. Also when a pupil has been under stress or haven't sung it is more important to look after their psychological well being
497	As a voice teacher I think it is my responsibility to ensure that my pupils know the best way to look after their voices. This will include advice on diet, vocal and physical exercise and any help with putting them in touch with other professionals who may be able to help with other aspects of their lives including mental issues.
555	...As a teacher I take responsibility for giving detailed information about what vocal techniques are healthy or unhealthy in both the short term and long term. I believe in teaching what will preserve the singing / performing voice for someone into their 70s at least....

Nineteen respondents reported discussing lifestyle factors with pupils, most of which echoed those outlined above. A response from a teacher who works with ‘elite-level professional performers’ is shown below as it includes topics not covered previously:

I teach elite-level professional performers where performance-related health issues become very important for two main reasons: 1. most (if not all) are self-employed, meaning that they don't earn money if they can't perform, and 2. the self-employed pressure leads many to take as many gigs as possible and even to perform whilst ill/injured. I discuss/outline areas such as effective pre-gig warm-up & post-gig cool-down routine, detailed vocal health advice, exercise, diet, effective practice routines, various strategies for pacing oneself through a gig, the various types of voice rest and when they apply, the benefits of LMT ('Larynx Massage Therapy'), who should do it and when, hearing protection, accurate advice regarding vocal pathologies, how the medical system works for singers needing medical investigation... (R380)

A sub-theme relating to giving advice was the need for teachers to “minimise...barriers wherever possible” (R153) because “if a pupil is not happy, they will not be happy to learn; anything” (R560). These barriers were generally related to non-musical situations such as ‘boyfriend troubles’ and ‘family difficulties’ and some teachers commented that problems often have to be expressed before the lesson can continue as “the current perceived problem can stop the student focussing on playing” (R55).

Physical performance-related health

Nearly half of respondents (47.9%, $n=201$ of 420) suggested that teachers are at least partially responsible for pupils' physical performance-related health. These respondents identified physical factors such as posture (referred to by 128 respondents), technique (71), tension and relaxation (32), warm-up or cool down (17), hearing protection (15), ergonomics (11), breathing (13), body awareness (8) and repertoire (4). Detailed responses relating to adapting these factors and discussing them with pupils are explored below under the following sub-headings: Posture and technique, Instrument-specific adaptations, Tension, relaxation and body awareness, Breathing and embouchure, Practice habits, Hearing and eyesight, Room environment, and Choosing an instrument.

Posture and technique

Approximately three-quarters of respondents (74.5%, $n=306$ of 411) referred to adapting pupils' 'posture', 'stance', or 'standing and sitting position'. Most simply referred to the need to pay attention to this aspect or to teach posture that is 'good', 'correct', or 'comfortable'. In some cases respondents suggested that this can take a lot of time with them "correcting my students over and over until they really absorb the right way to be on the instrument" (R227). Respondents provided advice about sitting and standing posture in different situations: e.g. "lessons are on the whole taken standing up, however occasionally we sit so that I can remind them how to sit in orchestra" (R25). Respondents reported using mirrors, and in some cases video recording technology, to allow pupils to see their posture from a different angle. One teacher reported that their lessons are "always conducted face to face, not side by side, so that I can constantly observe and correct postural habits" (R500). Some respondents reported providing general guidelines regarding how to support the instrument but others suggested that they do not "prescribe a specific way of holding the instrument" (R241) because "everybody has different physical attributes" (R373) and it is more important to help pupils "understand the principles behind a technique and how to adapt and adopt these principles to their playing" (R373) thereby finding "the best position for them" (R410).

Nearly a third of respondents (31.2%, $n=133$ of 426) stated that they discuss topics relating to physical symptoms with pupils, in particular posture and technique. For some, this involved starting the lesson by "asking if [pupils] have had any aches or pains over the week" (R25), or asking pupils "Do you feel comfortable?" (R382), and checking that problems are not exacerbated by playing. If pupils reported physical discomfort some

respondents would ‘work with them to establish the cause, and find a solution’; respondents’ strategies included identifying postural or technical defects, reducing tension, doing a physical warm-up, demonstrating what the pupil is doing, and devising exercises to help the pupil alleviate or work around the problem. A number of respondents gave detailed descriptions of how they work with pupils to avoid or manage physical symptoms, e.g.:

...when I see something unhelpful going on in the way that the student is using themselves, I will address it through reasoned discourse with the student. Here's an example: a viola student was struggling to manage an arpeggio passage in a Corelli sonata due to the fact he was contracting all his arm muscles at the same time as trying to move his arm. If he'd kept that up for any sustained period I am sure his body would have complained about it! A question or two elicited the information that he believed that he needed to press to get the sound out as well as be flexible to cross the strings. When we examined the process by which one makes a sound on the viola, we came to the conclusion that it might be more helpful to proceed with the idea that the sound is made by MOVEMENT, and that movement is common to both making the sound and crossing the strings. We reasoned that this movement would take place mainly at the elbow joint (which hadn't been moving much!), as well as the shoulder and the wrist. Having put forth a more useful and detailed set of beliefs on this issue, we went back to the instrument: his playing was instantly transformed... (R295)

One respondent suggested that “the importance of correct posture and technique is discussed but the reasons for this aren’t always addressed properly” (R548); it was not clear whether they were referring to their own habits or to teachers in general. Other respondents suggested that they do take time to explain ‘why good posture and correct breathing is important’ or ‘tell pupils why I insist their posture etc. is correct’: this generally related to avoiding strain, discomfort, or injury and conversely “forming comfortable, efficient physical habits” (R243) that will lead to “much greater efficiency, ease of playing, and ultimately musical satisfaction” (R377). A few respondents suggested that explanations may be “difficult to understand for some small children” (R16) or that some pupils are reluctant to adopt advice and it is then “a matter of judgement how you try to persuade them to change from a position where they feel comfortable – but which you know is not in their long term interest” (R617). Another respondent also said that they discuss posture with parents, “as they need to be aware of why I take so much time in setting up their child...in relation to the head, chin and spine positions whilst playing” (R191).

Instrument-specific adaptations

Respondents referred to adapting posture and technique for certain instruments, usually by using ergonomic aids. Suggestions are outlined below according to instrument family. All quotations and quasi-statistics in this section are drawn from analysis of Question 31.

Keyboard

Just over a fifth of respondents (21.2%, $n=87$ of 411) commented on adjusting piano, organ or keyboard pupils' instrument or environment. The most common references were to adjusting seating height and distance from the keyboard, using a footstool for children who cannot put their feet on the floor, and checking whether keyboards are at an appropriate height or on a suitable surface. They also commented on pupils' seating posture and the positioning of arms and wrists in relation to the keys, e.g. "that their arms and wrists remain parallel to the floor with no drooping" (R222) and "sit with a straight back and hands and arms at the correct level" (R563). A few less common responses included choosing appropriate repertoire for small hands, making sure that pupils can see the music, and ensuring that pupils get used to playing on pianos with different weighted and sized keys. One respondent commented that they would describe techniques reported above as "adapting to the instrument, not adapting the instrument to the student" (R219).

Voice

Just over a tenth of respondents (10.2%, $n=42$) mentioned adjusting vocal pupils' instrument or environment. This most commonly included adjusting pupils' body positioning: e.g. "understanding of the necessity of correct posture and alignment" (R112), "training and exercises to develop suitable body alignment" (R107), and "alignment of the body, head and neck" (R150). Less common responses included promoting physical self-awareness and using different techniques for particular genres of music: e.g. "the singing voice can be adapted to many different genres that require different vocal techniques" (R249).

Woodwind and Brass

Nearly a fifth of respondents (17.5%, $n=72$) referred to adapting woodwind and brass pupils' instrument or environment. This included changing various sections of the instrument, the angle of the instrument, and pupils' hand position on the instrument: see Table 4.4 for examples.

Table 4.4: Examples of posture and technique adaptations for woodwind players

R#	Illustrative quotations
14	Flute - Adjusting foot joint, head joint, hand positions, position/height of music stand. Clarinet - Adding thumb rest cushion, adjusting thumb rest, main body, hand positions, mouth piece, adding mouth piece patch, adjusting position/height of music stand. Saxophone - Adjusting crook, mouth piece, hand positions, sling, adding mouthpiece patch, adjusting position/height of music stand.
327	...recommend curved head joint, supply homemade floor spike to take the weight and increase posture awareness, supply large lump of blue tac when there isn't money to buy a bopep when there are signs of nerve compression in left index finger, use a little toy mouse under/inside right hand to improve right hand position...
368	Set up thumbrest on clarinet (manufacturer always sets it too low!), Have advised an adapted thumbrest for one 'slightly bendy' student like myself. Have also introduced a neck strap for one student so flexible he would otherwise drop the clarinet whilst playing...
477	The instrument must be warm BEFORE attempting to play it. So we put it fairly close to a heat source...The reed must be wet - so we put it in some water before going on as below. On the oboe the main physical problem is adapting the reed to the player and their instrument. (A reed that I can play on my own instrument invariably needs to be adapted to their oboe, and their physical capabilities...) This can take at least half of two or three consecutive lessons...
571	Sling height is a common issue, where pupils often play with cricked necks, inviting long-term neck and back issues when simply buying a new sling or just pulling it to the correct height would alleviate all issues...

Less common responses related to ensuring the music stand is at the correct height to encourage good posture, and teaching pupils how to interact with others: e.g.

“manoeuvring the instrument around other performers, music stand, chair and following conductor needs to be covered” (R14) and “when rehearsing with an accompanist I check they have eye contact and that they understand why they need this” (R30).

Brass teachers most frequently commented on the importance of bringing the instrument to the mouth (rather than the mouth to the instrument), ensuring the weight of the instrument is appropriately supported, not twisting the body to play, and keeping the head at the correct angle.

Bowed strings

Just under a fifth of respondents (17.0%, $n=70$) commented on adapting the instrument or environment of bowed strings pupils. Violin and viola teachers commonly referred to helping pupils set up their shoulder and chin rests (e.g. type/height/position of the rests) and adjusting the position of pupils' heads in relation to the rests. One respondent did not advocate the use of rests:

99/100 times the problem will be a technical one not an instrumental one in my experience. Introducing any particularly weird violin scaffolding like ridiculously high chin rests and shoulder rests is counterproductive - all it does is mask the symptoms, not solve the underlying problems. It also has the wrong intention - technique on the violin is all about fluidity and flexibility, it's not about finding one comfortable and 'correct' position, you need to be free to move, and the violin needs to be free to move about on your shoulder as well. (R382)

Teachers also noted the importance of maintaining the instrument, adjusting pupils' bow holds and the movement of the bowing arm, checking pupils' sitting and standing position, adjusting the music stand and height of the spike ('cello and double bass pupils), and adapting the interaction between pupil and instrument: see Table 4.5 for examples.

Table 4.5: Examples of posture and technique adaptations for bowed strings players

R#	Illustrative quotations
54	Set up of violin is the main thing, music stand position and height, sitting and standing positions, use of mirrors, suggestions of non-playing warm ups and stretches, other useful exercise/sport...
105	Instruction on how to carry bass. Discussing practice space at home.
134	Correct placement of chin on chin rest. Right and left arms relaxed when playing (not holding them high). Left hand relaxed when fingering. Bow hold, relaxed. Promoting an upright posture with no stooping (adjust height of music stand). Head should be balanced and not clamping down.
267	...making sure the instrument is the correct size, and has a suitable shoulder rest/sponge, within the budget available. There is always new kit to help with bow control e.g. the FrogFrog for bows. Using blu-tack to help the correct bow hold is cheaper, though. Coloured spots on the shoulder rest and instrument make sure the rest is in the correct position for the student...
277	Set up of violin shoulder rest; adjusting bridge; help with posture; replacing worn-out fine tuners; adjusting chin rest; lubricating pegs; help to prevent slipping pegs.
466	Change the position of spike to one side maybe. Occasionally try a wedge cushion. Different position of knees and feet, especially for arthritic hips (knees in the bouts of the 'cello for this, whether it's approved or not by other teachers!!)...
532	Shoulder rest height, chin rest height and position (centre/side), size of instrument (e.g. small adult on 7/8th size), general standing posture, relaxation exercises during ever practise/lesson to encourage tension reduction in relevant areas. Basic principle of putting the violin/bow around their body and using fingers/shoulders whatever as closely as possible to their natural shape.

Guitar

A total of 14 guitar teachers (3.4%) commented on adapting the instrument. They most commonly reported introducing or adjusting straps and/or supports to alter the position of the instrument: e.g. "guitar straps are introduced if students don't already use them and adjusted to the correct position" (R243) and "suggestion of guitar supports – Ergoplay, Dynarette, Gitano, Mundo Guitar Support" (R568). A few respondents also reported asking pupils to use a footstool or raising the left leg using books.

Percussion

Fifteen respondents (3.6%) who taught the drum kit reported strategies such as adapting the set-up of the instrument, adjusting seating position and height/angle of drums and cymbals, seating and standing posture, adjusting pedal tension for easier use, choosing sticks to suit the pupil and the repertoire, and choosing an appropriate method of playing.

Tension, relaxation and body awareness

Over a tenth of respondents (13.1%, $n=54$ of 411) reported helping pupils to adapt how tense or relaxed they are; they used phrases such as 'avoid tension', 'not get tense', 'release unnecessary tension', 'encourage relaxed playing', and 'developing a relaxed

hand'. Excessive tension was generally perceived as uncomfortable and "likely to adversely affect the end product" (R150) and inhibit "free movement" (R377). A few respondents reported using exercises from disciplines like Alexander Technique and Yoga but most did not elaborate on what their teaching exercises involved. One of the respondents who referred to Alexander Technique suggested that the aim is to find "the minimum effort necessary to achieve the optimum effect" (R377).

Breathing and embouchure

Just over a tenth of respondents (11.9%, $n=49$ of 411) referred to adapting factors relating to breathing and embouchure. Vocal teachers reported helping pupils to modify breathing and breath support, often alongside a reference to posture or alignment. They commented on 'opening the throat', and 'vowel shapes (including larynx position, tongue position, mouth opening, and lip position)'. A few woodwind teachers mentioned teaching 'circular breathing', 'diaphragm control', and 'flexible vibrato dexterity', being aware of young players' teeth, and being aware that clarinettists can have problems with their soft palate. Brass teachers referred to choosing an appropriate mouthpiece and being aware of pressure on pupils' teeth.

Practice habits

Over a tenth of respondents (12.4%, $n=51$ of 411) referred to teaching pupils how to practise. Most references to practice habits related to teaching pupils warm-ups and encouraging them to use these during private practice. Some respondents reported teaching pupils to organise their practice routines "to cover all items on the practice list" (R2) and talking to pupils about "practice frustration" (R442) and how to deal with it. A few respondents gave examples of the timings that they advocate for practice sessions: e.g. "recommend playing in small amounts (5 mins warm-up, 5 mins playing with breaks in between and then 2 or 3 more practises in the day at short intervals" (R4482) and "short 5 minute bursts of highly concentrated and focused practice interspersed with relaxed movement and returning to the instrument in the correct position" (R625). A few woodwind teachers referred to the need to take breaks within a lesson to avoid pupils getting tired or faint.

Hearing and eyesight

Only 15 respondents reported a perceived responsibility for pupils' hearing (3.6% of 420) and only 13 reported adapting factors relating to hearing or eyesight (3.2% of 411). Some of these respondents mentioned adapting volume levels when using an electric keyboard

or drum kit: e.g. “ensuring that the volume control is set to a level that does not blot out conversational level noise in the practice room” (R222). Others commented on the importance of the practice environment with one suggesting that it is necessary to alter the layout of the room “to change effects of reflected sound” (R444) and the other advocating “practising in a suitable place – to help posture and protect ears” (R447). Respondents who referred to eyesight reported suggesting that pupils should have an eye test and/or get glasses if they suspect that the pupil is struggling to see. Just under a tenth of respondents (9.4%, $n=40$ of 426) reported discussing hearing with pupils. Most simply commented that they discuss ‘hearing protection’, ‘wearing of ear plugs’, ‘hearing damage’ or similar phrases but some gave more detailed responses relating to certain instruments or strategies to protect hearing (see Table 4.6).

Table 4.6: Examples of discussing the prevention of hearing problems with pupils

R#	Illustrative quotations
21	...when playing piccolo is important to wear some kind of ear defender in right ear ...
32	...I ensure that the students understand the need for care when playing trumpet in close proximity to others and why it is important to protect hearing...
231	... I don't often discuss noise related issues, but if I feel a student is overblowing (which could affect hearing) I will address it and equally ensure the room is appropriate for a brass lesson...
239	Explaining how the volume of the other band instruments they play with can affect their hearing and offer ear plugs...
243	... NIHL is an unavoidable topic in contemporary amplified music/drum kit playing.
448	Flute players are advised to not play second octave notes in a small room too much in one practise. It is recommended that they play them short and with not too much power for sound control. If they are really wanting to try these loud and strong then ear plugs are recommended.
557	...I advise on noise level reduction while practising and using appropriate room spaces and acoustics to reduce exposure if possible...

A few respondents reported discussing caring for the hearing of others: for example, one recounted a professional gig where “a fellow percussionist set a cymbal right behind the head of a trumpeter – after the break he found half of his cymbal in the toilet” (R373). Another reported discussing hearing with pupils and colleagues, in particular ‘threshold shift’ and the “rule of thumb that if experienced more than twice a month, or if ever has not cleared within 8 hours that is a danger sign” (R303).

Physical environment

A small group of respondents (14.4%, $n=59$ of 411) referred to adapting physical teaching and practice environments to make them comfortable and safe. Most responses related to optimising factors such as ‘lighting, music stand height, fresh air and room temperature, ambiance, position in the room, personal space’, ‘lack of distraction (e.g. extraneous noise)’, ‘getting a space to themselves’ and ‘avoiding family space at home. Respondents also commented on pupils’ clothing: e.g. encouraging singers to wear

appropriate clothing and footwear and “allowing jettisoning of school blazers for comfort” (R498). Others commented on making sure the room is an appropriate size, for example to ensure there is “space for bowing” (R332) and refusing to teach in “the notorious broom cupboard” or at least making it as user-friendly as possible (R449). Quite a few respondents advocated the use of mirrors to enable pupils to ‘see themselves when they are practising’, ‘check posture, use of lips and facial muscles’, and see their ‘hand position, bow hold whilst playing’. A few others commented on positioning pupils in relation to an accompanist and many teachers referred to ensuring that the music stand is in an appropriate place and at a good height, usually in relation to adjusting posture.

Some vocal teachers reported ensuring that the studio is clean and free of dust, pupils have access to water, and the acoustic of the room is appropriate: e.g. “small practice rooms are not ideal...as the proximity of an operatic tone can be daunting” (R602). Several commented on helping pupils to consider their environment and audience: e.g. “if it is a small confined space singing to people with dementia...they will need to have good control of dynamics and an awareness of the space” (R624). The use of a guitar and/or microphone was also mentioned as it “can compromise good posture or breathing etc....trying to make themselves heard in a bad acoustic can lead to bad vocal habits” (R555). Some vocal teachers mentioned teaching pupils to cope with undertaking various activities alongside teaching: e.g. “many singers have to dance at the same time and be extremely flexible with singing and performing in different costumes, different position etc....It is my job as a teacher to help them with this” (R249).

Choosing an instrument

Less than a tenth of respondents (8.8%, $n=36$ of 411) referring to helping pupils choose an instrument. Comments usually related to instrument size, weight and set-up but some referred to choosing a starting instrument or recommending an adapted instrument: e.g. “the smallest pupils who can’t hold the trombone are offered baritone horn instead” (R214), “working out whether young saxophonists should start on an alto, an adapted alto, or a soprano sax” (R479), and “I have often encouraged younger/smaller students to purchase a flute with a curved headjoint” (R410). With bowed strings instruments there were comments about not moving pupils up to next size of instrument too early and working out whether pupils are suited to the viola. One respondent commented that there are two aspects of choosing an instrument: “suitability of instrument to student: if they can play it” and “suitability of student to instrument: if they can carry it” (R5).

Psychological performance-related health

Nearly a third of respondents (30.2%, $n=127$ of 420) suggested that teachers are at least partially responsible for pupils' psychological performance-related health. Five key areas were identified: confidence, anxiety, the learning environment, performance preparation, and miscellaneous other comments predominantly relating to teaching pupils various habits and attitudes towards performance (see Figure 4.7).

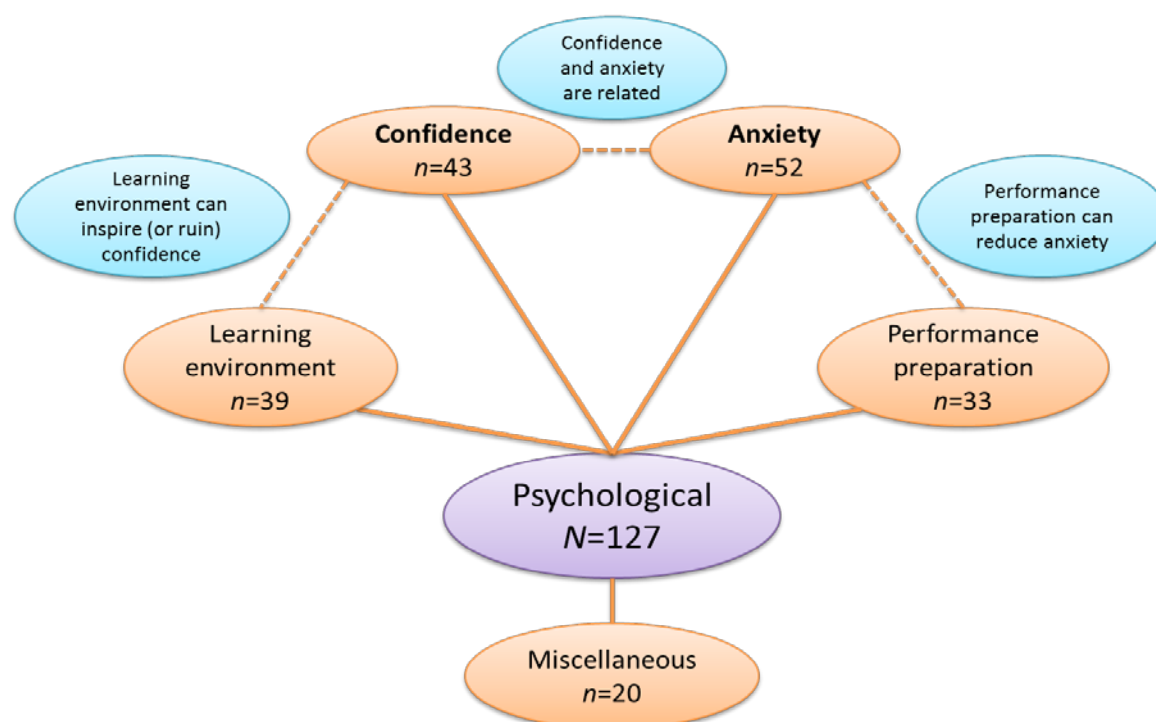


Figure 4.7: Themes relating to psychological performance-related health. *Note:* These themes were drawn from responses to Question 29 ($N=420$).

Responses relating to responsibility for psychological performance-related health (as shown in Figure 4.7), and adapting or discussing psychological factors (drawn from responses to Questions 31 and 32) are discussed below under the following headings: Confidence, Anxiety, Learning environment and Performance preparation.

Confidence

Approximately a tenth of respondents (10.2%, $n=43$ of 420) reported that teachers bear at least partial responsibility for pupils' confidence. They suggested that teachers should enhance, and not diminish, pupils' confidence as people and/or performers: see Table 4.7 for examples. A vocal teacher (R208) reported working with pupils who have previously had poor experiences of singing therefore they "have a very delicate temperament" and need constant encouragement. She has also taught people who have been bereaved or had trauma in their lives and stated that these pupils report feeling better after a lesson.

Table 4.7: Examples of supporting pupils' general and performance-related confidence

R#	Illustrative quotations
Support and enhance pupils' general confidence	
147	[Music education is not] a solely technical/didactic preparation for a professional career. We're teaching them to be happier/more rounded/more confident/more fulfilled/better members of the human race...
151	...a lot of what I teach is regarding confidence and learning to express yourself through the music...
225	...playing an instrument can be beneficial for those of a nervous or shy disposition...
Support and enhance pupils' performance-related confidence	
192	...it's important to encourage students to look at the positive aspects of their playing...
374	...the teacher has the ability to create a positive influence and contribute to students' self-confidence...
542	...if the teacher is sincere and positive, the student's performance will be a response to this, and, I believe, of a higher standard than it would be otherwise.

Some respondents linked confidence directly to the learning environment and made comments such as “pupils in a lesson situation need to feel safe, confidence and cared for in order to play their best” (R606). A keyboard teacher commented that “very regular performance in ‘safe’ environments from the very beginning help develop a confidence in performance as the child grows” (R397) and described the workshops that she runs for pupils to encourage them to develop friendships, discourage competition and teach pupils how to deal with performance situations.

Several respondents commented on the potential for teachers to damage pupils' confidence, for example by “continually berating a child for bad playing” (R223), bullying or browbeating pupils (R362), belittling or humiliating them (R197), or engaging in “old-fashioned teaching by fear which essentially makes a teacher and pupil enemies” (R524). These respondents stated that such behaviours should be avoided and that teachers should instead aim to help pupils develop a love of music and their instrument.

Anxiety

Just over a tenth of respondents (12.4%, $n=52$ of 420) reported that teachers have a responsibility for addressing “psychological issues relating to public performance or examinations” (R109). They commented that they “hope that [pupils] can ask about stress/worries” (R427) and suggested that teachers should “nurture their pupils and help them cope with things like performance anxiety and low self-esteem” (R166). In addition, over two-fifths of respondents (43.4%, $n=185$ of 426) reported discussing performance anxiety or ‘nerves’ with pupils. This involved starting conversations relating to anxiety and addressing pupils' concerns about failure, making mistakes, and the reactions of others. Many respondents reported that discussions revolved around reassuring their pupils that it is normal to feel nervous before a performance, for example one

respondent commented that pupils often say “Sir, I’m nervous” and he responds “Good – you’re normal!” (R591). Quite a few respondents reported explaining to pupils why the body reacts as it does in a performance situation; see Table 4.8 for examples.

Table 4.8: Example explanations of bodily reactions to performance situations

R#	Illustrative quotations
251	We discuss that physiologically our anxiety is actually what we would call excitement in another context...and that you should remember music is fun and to try and feel the nerves as excitement...
274	I spend a lot of time discussing nerves and how to channel adrenaline into performing well, rather than letting it get the better of you.
332	Nervousness and anxiety are normal for someone about to perform. Without that extra energy the performance may lack sparkle.
408	I explain the adrenaline reaction (fight-flight) so they understand the physiological processes behind sweaty hands, dry mouth, 'slow brain' etc. and can work to overcome them.

Comments relating to confidence were more commonly associated with the psychological learning environment, whereas comments about anxiety were more commonly paired with reference to performance preparation. Only three respondents commented on the learning environment in tandem with referring to anxiety: one suggested that it is important to be sensitive to pupils’ emotional state and “not to induce fear or anxiety when playing” (R554), and the others commented that it is important to deal with performance anxiety while maintaining the learning environment as a safe space to express feelings and allowing pupils to enjoy the lessons. Three respondents suggested that teachers should aim to enhance pupils’ confidence and reduce anxiety: e.g. “I also try to boost self-esteem and encourage self-confidence when appropriate, and to reduce performance anxiety” (R540), and “pupils should be helped to enjoy the positive aspects of performing, and taught to free themselves of anxiety in these contexts” (R500). Other respondents directly associated increased confidence with reduced anxiety, for example: “teachers should try to build a pupil’s confidence so that they do not obtain anxious and nervous symptoms” (R95) and “give them the right emotional support and confidence that will allow the student to overcome performance anxiety” (R227).

Psychological learning environment

Thirty-nine respondents suggested that teachers are responsible for providing an appropriate psychological learning environment. The majority gave descriptions of what they deemed a ‘good’ learning environment: e.g. “an environment that is conducive to the pupil’s healthy development” (R463), “circumstances and conditions which wholly support their students and allow them to maintain health and well-being” (R3), “a positive, safe, trusting and encouraging environment in which to learn” (R58), or “a safe

environment in which they can play/learn well and without pain” (R327). A woodwind teacher suggested that teachers should “treat the pupil such that the teaching doesn’t negatively impact them psychologically or emotionally, and work with them on any issues of inferiority and fear” (R436) and another suggested that teachers should nurture pupils’ psychological development, overcome obstacles tactfully and help pupils to grow with the correct balance of demand and reward (R568).

Performance preparation

Five categories of performance preparation strategies were identified among responses to Questions 29, 31 and 32. These are explored below under the following headings: Teacher-centred approaches, Physical exercises or strategies, Mental attitudes and approach to performance, Stagecraft, and Performance opportunities.

Teacher-centred approaches

Respondents referred to the importance of constructing a positive learning environment so that pupils feel confident and secure in their abilities (discussed above). A few respondents reported that they believe it is important to exhibit confidence in their pupils: e.g. “pupils’ confidence and trust in the teacher is essential, and a good rapport encourages the sharing of experiences” (R46) and “I aim to increase their confidence by letting them know that I value and admire their performance” (R465). Others reported that they believe a positive teaching approach can help pupils to prepare for performance: e.g. “... I often use a 'star and a wish' system, first offering a positive comment about their performance before mentioning the aspect that needs work” (R43).

Stagecraft

This related to teaching pupils how to present themselves and use the platform: e.g. etiquette, smiling and bowing, facial expressions, choice of clothing, giving a relaxed and positive performance, and dealing with unexpected situations (see Table 4.9).

Table 4.9: Example comments relating to teaching pupils stagecraft strategies

R#	Illustrative quotations
30	...I teach [singers] to centre their gaze just above the audiences/examiners heads so that they don't have to look straight at them.
58	I try to work on stagecraft techniques, using props, getting a feeling of ownership of the stage area, raising confidence levels with constructive feedback. I have a few activities which encourage eye contact and verbal/non-verbal communication...
74	...how to maximise the applause, how to give a relaxed and positive presentation of self to put audience at ease...
142	...I discuss situations that could occur and how a singer can cope with and continue with their singing performance should there be a disturbance or interruption in a concert or recital situation...
153	...allow them to make reasonable choices...e.g. if they prefer to wear no shoes I prefer them to wear matching socks.

Physical exercises and strategies

In response to Question 31 a few respondents reported practical strategies they use to help prepare pupils for performance: e.g. finding a competent accompanist, helping the pupil prepare the instrument for performance, and making suggestions regarding effective performers' courses. The most common physical strategy reportedly discussed with pupils (Question 32) was familiarisation with the venue and performance procedure. This included teachers taking pupils to the performance venue, letting them "visualise it together and practice walking in, introducing a piece, singing it, bowing and walking off" (R108), talking through what to expect and "how they may feel tired after the first two pieces" (R55), and being "thoroughly familiar with all aspects of the music, the environment in which the performance will take place and the size of the audience" (R144). Respondents also commented frequently on ensuring that pupils are thoroughly prepared for each performance in terms of helping them to plan before major performances, making sure that "the music is in their vocal 'muscle memory'" (R122), and "building up stamina in stages" (R331). One respondent commented that "practise is a journey towards peak fitness, like regular training...I encourage pupils to make a distinction between the mental and physical processes of learning a piece" (R131). Respondents reported that they discuss breathing and relaxation with pupils, for example: "encourage pupil to control breathing, relax back of neck, then shoulders, arms, elbows" (R591) and "relaxation is key to technique, expression and enjoyment of music" (R271). Reported pre-performance routines included wiping sweating hands before starting playing, not listening to other competitors before playing in a competition, warming the wrist under water, and "running on the spot, doing star jumps, or gentle facial massage" (R202). Other less common techniques included smiling, enjoying the music, and using meditation or acting techniques.

Mental approach and attitudes towards performance

Cultivating a healthy mental approach to performance and healthy mental habits during performance was mentioned in response to Questions 29, 31, and 32. Eight respondents suggested that teachers are responsible for providing guidance regarding pupils' mental approach to performance. These respondents suggested that it is important for teachers to address the mental aspects of performing but did not refer to the advantages of doing so (e.g. instilling performance confidence) or the consequences of not doing so (e.g. the development of anxiety). Others suggested that teachers should help pupils develop a positive attitude towards performance, most commonly by helping them 'think positively'

or develop new ways of practising: e.g. one respondent reported that they tell their pupils “whether you think you can or think you can’t, you’re right” (R339). Twenty-eight respondents (6.8% of 411) reported helping pupils adapt their instrument/environment by talking about ‘mental discipline’, ‘mental attitudes to practice and performance’, ‘mental preparation’, ‘a healthy mental approach’, and developing a ‘realistic attitude to success and failure and expectations’. Many respondents reported discussing performance preparation with pupils and their responses were coded into five categories, as shown in Table 4.10 with illustrative quotations.

Table 4.10: Example strategies to improve mental approach to performance

R#	Illustrative quotations
Visualisation	
275	...imagine audience in underwear...
507	...we talk about picturing positive outcome; pretending that they are in their own room...
602	Bubble of calm...the pupil imagines they are in a huge bubble which they fill with things that put them at ease.
Mental preparation	
127	I’ve worked with a CBT therapist in the past so often work with the student to identify and expose any difficulties that arise with performance and then learn skills to deal with the issues. Confidence building, being realistic and honest with them, allow them to get used to it in their own time
245	Practice handling slips, test fears of 'worst case scenario' e.g. "imagine an exam went very badly and you failed the grade, what would happen? You'd feel disappointed but everyone would respect you for trying. Life will carry on just as before, we will learn from it to improve. We will still look at fresh pieces etc.
555	...I work on state management, self-talk, meditation and centring techniques, how to debrief and learn from performances, exams and auditions, as well as how to prepare for them.
Relationship with audience	
77	...communicating the ideas of the music in order to focus on the activity of sharing something of oneself in a generous way rather than the idea of being judged by others.
111	...seeing the audience as involved in the song.
124	The concept of an audience is introduced early on...The audience is not a "problem", it is the reason you are there...
284	...thinking of what they are doing as 'a performance' or 'entertaining' the examiner...talking about dispelling myths of examiners being harsh critics (if that is their perception)...
600	I put emphasis not in the auditors or examiners "power" but in my students own assessment of themselves, so that they are able to achieve targets that we set together in class, rather than expecting a third party's "approval".
Relationship with music and performance	
125	To become engrossed in the music and express their feeling through the music rather than dwell on the situation...
362	...ensuring that pupils understand that music performance is not a matter of life and death but that it is fun...
374	...Exploring emotional connection with a song to enable focus on the song and not the audience...
Perspectives on ‘perfection’ and reaction to ‘errors’	
30	...few performances are perfect and I teach them to feel good about all the notes they got right.
151	I also say that the amazing thing about music is that there is no such thing as perfection and that their performance is just as important as anyone else's...
410	I recently picked up a tip of encouraging students to count the notes in a piece - if they played one or two wrong, that was a small percentage of the overall performance...

The most common strategies related to modifying pupils’ relationship with the audience and/or music, and modifying how pupils react cognitively and/or emotionally to the

performance situation. There was disagreement between respondents regarding these relationships: some respondents suggested that pupils should engage with the audience whilst others advocated excluding the audience or focusing on the music only.

Respondents who referred to ‘mistakes’ and/or ‘perfection’ said that they teach their pupils either that mistakes are acceptable in performance because ‘there is no such thing as perfection’ or that they should not allow mistakes to distract or detract from the rest of the performance.

Performance opportunities

Respondents suggested that musicians should have sufficient exposure to performance and “the chance to perform regularly in many different situations” (R558). When suggesting how they help pupils to adapt their instrument/environment a few respondents reported that that they make sure pupils engage with music outside lessons, for example by “setting up performance opportunities for pupils to adapt to different acoustics” (R111), suggesting that pupils “listen to music regularly and watch performances” (R125), and organising “low pressure concert before the higher pressure event” (R570). Similarly, in response to Question 32 respondents reported that they ensure pupils have plenty of opportunities to perform prior to exposing them to high-pressure situations such as exams or auditions. Many suggested that they host performance classes and encourage pupils to practice performing to inanimate objects, family, friends, and supportive audiences: see Table 4.11 for examples.

Table 4.11: Examples of providing pupils with performance opportunities

R#	Illustrative quotations
97	Explain performance confidence comes with experience. Suggest they play in front of family and friends to practice it.
284	... I do a mock exam, where I sit away from them, and am almost silent in between the different things they have to play, to help them feel it is more awkward. Then when they tell me afterwards that they did feel nervous we have a conversation about their feelings and ways in which they can cope with the situation.
625	...organise a range of performance practice situations from informal to more formal, where problems can be ironed out through positive habituation. Generally, the more performing as opposed to practice that a student does, the better they cope with the stress and the more in control of it they become. At [deleted] I initiated a series of informal jam sessions where students performed their recital pieces for peers, then other teachers, then a broader audience and the examination outcomes were much improved plus students began to enjoy the process much more- as they should

4.1.4 Report or refer

Three quarters of respondents reported that they would refer a pupil with PRPs on to someone else straight away or after offering some advice (see Section 4.1.2). Responses relating to the theme ‘Shared responsibility’ are presented below followed by details of respondents’ preferential referral pathways (drawn from 376 responses to Question 34)

Shared responsibility

Nearly all respondents (96.9%, n=407 of 420) commented on who they believe should share responsibility for pupils’ health and well-being. Nominations included teachers, pupils, pupils’ families, educational institutions, and HCPs. Approximately three-fifths of respondents (59.5%, n=242 of 407) suggested that a representative of one of these groups should have partial responsibility but did not suggest who else should be involved – e.g. “Teachers are responsible up to a point...however this is of course limited to the factors they can control” – these responses are depicted as purple ovals in Figure 4.8. The remaining two-fifths (40.5%, n=165) nominated representatives from a combination of groups – e.g. “Instrumental teachers are responsible for the health and well-being of their pupils but they share this responsibility with other teachers, parents and the pupils themselves” – these responses are shown as orange rectangles in Figure 4.8.

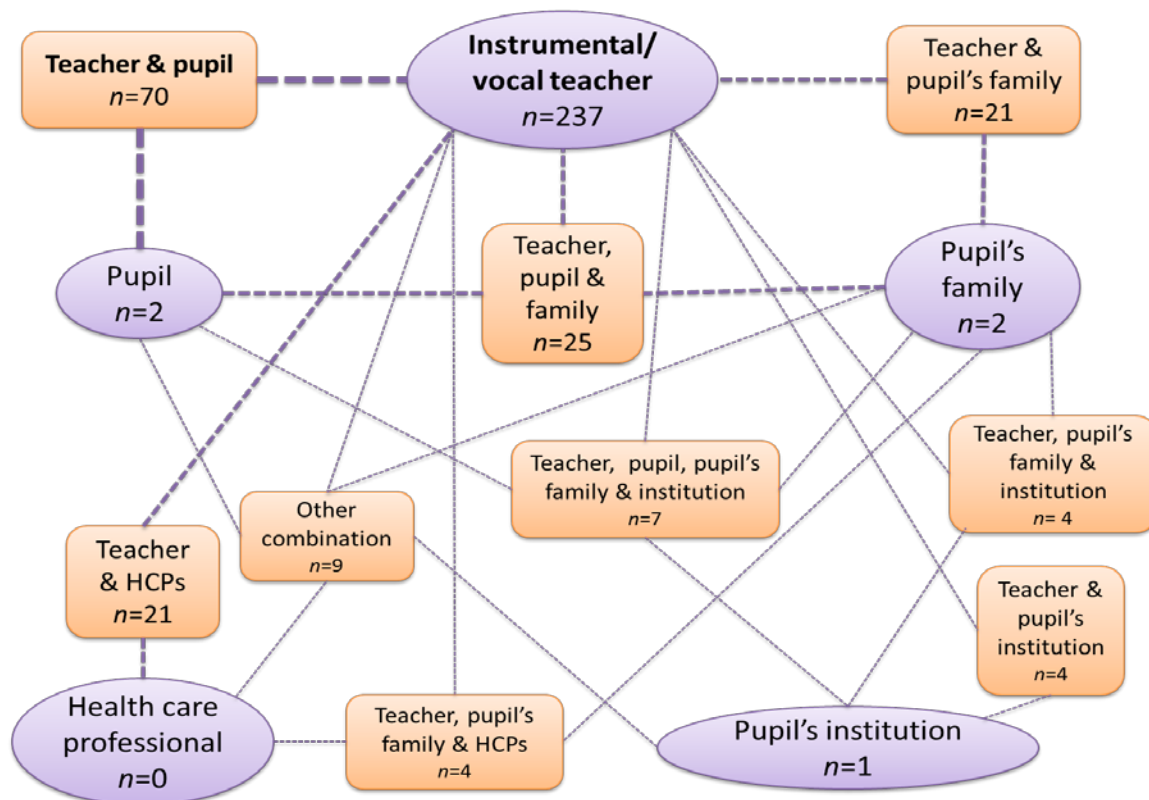


Figure 4.8: Themes relating to shared responsibility. *Note:* These themes were drawn from responses to Question 29.

No-one suggested that HCPs are solely responsible for pupils' health and well-being. One respondent suggested that at tertiary-level "the college must be responsible for advising and educating in a sustained way on health and well-being" (R557); she reported that some colleagues see health promotion as trivial whereas she believes it should be a core part of music education. Two respondents suggested that pupils' families are solely responsible. Another two stated that pupils are responsible for selves – e.g. "people are responsible for themselves" (R391) and "really it is up to a pupil to keep themselves fit and well" (R537) – but teachers can give advice and encourage healthy practices. Many respondents (58.2%, $n=237$) commented in passing that instrumental/vocal teachers are at least partially responsible for pupil health and well-being: e.g.

The teacher is one of many responsible people who participate in the well-being of their pupils. This responsibility includes, but is not limited to, strictly musical matters; it also must acknowledge appropriate boundaries, either practical or ethical. (R458)

These responses were included under 'Shared responsibility' as they illustrate the division of responsibility but most comments have been discussed in detail in preceding sections.

Teacher and pupil

Nearly a fifth of respondents (17.2%, $n=70$ of 407) stated that responsibility is shared between instrumental/vocal teachers and their pupils. Most suggested that it is up to pupils to take advantage of guidance offered by teachers; see Table 4.12 for examples.

Table 4.12: Examples of responsibility shared between teacher and pupil

R#	Illustrative quotations
58	...As teachers we cannot have the entire responsibility to see that our advice is carried out...BUT we can make sure that they know about the dangers and pitfalls of not maintaining optimum health and wellbeing and be there to support and refer where necessary.
106	...the student has to be the 'carer' too and not the saboteur of their talent.
194	...problems caused by bad technique can be the teacher's fault, unless the pupil has shown an unwillingness to change their technique despite the best efforts of their teacher.
223	I think it's the teacher's responsibility to advise (constantly if necessary) their pupils of the dangers their playing can bring...If the pupil chooses to ignore this advice on their head be it.
465	When a pupil entrusts their precious voice to a teacher, it is the responsibility of the teacher to ensure no damage is done by the teaching, that the teacher informs the pupil how to protect their voice in daily living and their performance activities. It then becomes the pupil's responsibility to follow that advice.
495	Some artistic people can be very self-destructive - a teacher cannot be held responsible for that.
600	...sometimes the teacher's guidance is obliterated by the student. Most frequently injuries happen in more advanced students that ignore the signs of their own body, despite recognising the discomfort.

Three respondents commented that pupils "must meet the teacher part way" (R613) and be "open to learning about these things" (R393), as well as coming to lessons "with a positive attitude, ready to cooperate" (R554). Seven respondents suggested that there

should be a transfer of responsibility from teacher to pupil; therefore, the amount of responsibility that lies with the teacher and pupil “can depend broadly on the age of the student and also personal factors like maturity level” (R613). A vocal teacher gave a detailed comment relating to the transfer of responsibility between teacher and pupil:

...It is definitely a teacher's responsibility to know his/her craft intimately, to be able to recognise and diagnose vocal problems as they arise, to help steer the student away from harmful tension, harmful vocal habits and to encourage positive approaches. However it cannot be a teacher's job to provide psychotherapy or to take responsibility for a student's health problems unless they have come about as a direct result of teaching incorrect vocal habits. Naturally the student's personal life will affect their approach to all they do, but a professional teacher must have distinct boundaries. Kindness is essential of course but knowing when to give the responsibility back to the (adult) student is essential to keeping the student/teacher relationship a healthy and professional one. (R88)

Teacher and pupil's family

Twenty-one respondents (5.2% of 407) suggested that responsibility should be shared between the teacher and the pupil's family. Five of these stated that there is a “largely parental responsibility” (R489) for matters such as overall health, physical care, diet, peace of mind and general good health. One respondent commented that “parents, environment, experiences, expectations and genetics are all far more powerful than I am” (R359) but she said she tries to offer good information and advice to her pupils. Fourteen respondents said that teachers should try to work with families to promote healthy habits at home because “family and parental culture will have the most significant effect on the student's well-being” (R219). Two of the respondents said that their pupils are “always accompanied in their lessons by a parent” (R480) and another suggested that when parents attend lessons the teacher can support the parent to help the pupil follow the teacher's advice in the home. A vocal teacher stated that “it is vital too that parents are aware of how much singing and voice work their child is doing...vocal rest is important” (R566). Another vocal teacher argued that parents “often have no idea of appropriate methods to achieve [overall well-being] for singers, so the load tends to fall on the teacher's head” (R150); this teacher reported that they work with the parents and “run any recommendations past them, as they are the ones who will have to make the appointment or administer any remedies”. One respondent noted that guidelines relating to physical contact between teacher and pupil “should not preclude showing how to hold a bow, how to breathe, how to sit to play a ‘cello” and that “any parent who refuses to

allow any physical contact should have an explanation why it is necessary, and a teacher should refuse to teach a pupil where permission...has not been given in writing” (R332).

Teacher, pupil and pupil’s family

Twenty-five respondents (6.1%) stated that responsibility should be shared between the teacher, pupil and pupil’s family. Ten of these respondents commented that teachers should provide advice but pupils (and/or their family if the pupil is a child) are responsible for taking the advice, another ten respondents reported that teachers should be aware of pupils’ health and discuss concerns with the pupil and/or family, and five wrote about the transfer of responsibility among teacher, pupil and family: see Table 4.13 for examples.

Table 4.13: Examples of responsibility shared between teacher, pupil and pupil’s family

R#	Illustrative quotations
165	...If they are either a child or a vulnerable adult then the responsibility for their health and well-being in general falls mainly on their parents or carers. In other adults, the responsibility for their health and well-being is their own. However, no matter the age of their student, an instrumental/vocal teacher needs to look after their pupil's performance-related health...
190	Teachers are responsible for introducing students to the risks and for proposing potential management strategies for these risks; students (or their parents/carers for younger students) are responsible for engaging in these management strategies so as to best protect themselves.
549	It is the teacher’s responsibility to report any concerns they may have about a pupil in relation to their well-being to the parents... In the case of an adult pupil the teacher needs to build a trusting relationship so that any problems relating to musical well-being can be discussed and solved.
584	It is the responsibility of the teacher to equip the pupil to become responsible for their own health and well-being. Depending on the age of the student that responsibility may also be shared with the parent.

Teacher and pupil’s educational institution, plus others

Four respondents suggested that teachers should work with representatives within educational institutions to care for pupils’ health and well-being. This involved passing on concerns noted during lessons or divulged by a pupil to child protection/welfare representatives in schools or local authorities, the teacher’s employer, or other responsible parties. Another four respondents stated that the attitudes of teachers at the pupil’s institution can “have a great effect on the student’s confidence in the value of what they are studying” (R267) and any problems that the teacher notices should be brought to the attention of a “suitably qualified person in the school, or the parent, if it is a private lesson” (R62). A further seven respondents split responsibility between a teacher, the pupil, the pupil’s family and educational institution. This responsibility was viewed as a ‘duty of care’ or a ‘general health responsibility’ that should be shared among relevant individuals and that teachers “must communicate appropriately with pupil, teachers, parents and schools in order to get the best out of our pupils” (R184). One

respondent commented that responsibility for general well-being should “come down to parents – but increasingly it is falling to schools to monitor their well-being” (R132).

Teacher and healthcare professionals

Less than a tenth of respondents (7.6%, $n=31$) suggested that HCPs are at least partially responsible for pupils’ health and well-being. Most respondents who nominated teachers and HCPs suggested that a teacher should be “willing and ready to exercise their duty of care towards any pupil who is in difficulties” (R170) but also referred to the importance of professional boundaries between disciplines (see Table 4.14 for examples).

Table 4.14: Examples of responsibility shared between teacher and HCPs

R#	Illustrative quotations
54	...teachers cannot be medical doctors or psychologists too, so ought not to take full responsibility but be able to at least point people in the right direction.
166	...sometimes there may be problems that the teacher just doesn't know how to solve and they should advise the student to see a GP or other health professional...
439	Music teachers make for very poor counsellors in general and I would always refer a student to a health professional rather than pretend to be a specialist in all matters!
466	But we are instrumental teachers, not a qualified psychiatrist or physiotherapist (unless we are, of course!) and so we MUST understand where our expertise stops and recommendations must be tactfully made towards physical or mind related specialists.

Two respondents refer pupils to Alexander Technique teachers instead of HCPs. Three respondents suggested that teachers should be able to facilitate referral to appropriate specialists. A keyboard teacher (R268) suggested that after referring pupils to HCPs teachers should take on “an advisory role” as it would be dangerous to take on a direct role. Three respondents gave examples of facilitating pupils’ access to qualified care, for example one had “invited a medical doctor with voice clinic experience to give a series of seminars” (R624) and another “referred a couple of pupils to their GPs to have possible problems checked out” (R122). The response from the third respondent is shown below:

...I had one student who was clinically depressed. We worked on building his confidence through music and he found that he was much happier in himself. One day he quit lessons in favour of going to another teacher who was nearer to where he lived...I heard nothing for a few weeks after this then one day I got a call from him saying that he had just got out of hospital after a failed suicide attempt...I suggested that he speak to his counsellor as I was not the best person to be involved with in this and that he would be able to get better help elsewhere. Speaking to friends of mine who are professional counsellors and social workers I was told that this was the best thing to do... (R259)

A vocal teacher reported that they have been “used as a counsellor, mediator, guide, confidante, advisor, ‘shoulder’ to cry on etc.” (R205) and another three respondents also referred to counselling with one suggesting that “in a 20 minute lesson I can’t also be a

parent and counsellor” (R276), another commenting that “sometimes a teacher can feel very much like a counsellor” (R347) and the third stating that a vocal teacher’s and counsellor’s areas of expertise “could be said to overlap from time to time” (R112). This respondent suggested that teachers should receive training to help differentiate between teachers’ and counsellors’ areas of expertise.

Referral pathways

The majority of respondents (88.7%, $n=376$ of 424) gave details about preferred referral pathways (results are not mutually exclusive as many respondents suggested multiple pathways). The most commonly reported referral was by a teacher to an HCP: 38.9% of respondents (165) reported that they would send a pupil to their GP, an ENT specialist, voice clinic, speech and language therapist, dentist, or consultant. A further 15.3% (65) would recommend that a pupil should seek advice via BAPAM. The second most common referral was by a teacher to a physiotherapist/osteopath/chiropractor (17.5%, $n=74$) or. Nearly 15% of respondents (14.6%, $n=62$) advocated referring pupils to an Alexander Technique or Feldenkrais Teacher and 4.5% (19) would advise pupils to try Yoga or Pilates. Advising pupils to seek help from a music psychologist or counsellor (usually in relation to MPA) was reported by 12.7% (54) of respondents. Forty respondents (9.4%) would direct pupils to another musician and 29 (6.8%) would suggest that pupils speak to representatives of an organisation such as the MU or ISM. Respondents also suggested referring pupils to their educational institution ($n=31$), family (21), relevant research (17), alternative therapy practitioners⁹⁸ (16), a massage therapist ($n=8$), or suggesting they do some exercise (6). One respondent reported that they would “always manage this with my pupil as I regard it as completely my responsibility to help them overcome it” (R575). Thirty-one respondents stated that a referral decision would be made in relation to a specific situation and 25 reported that they did not know where they would refer a pupil: they made comments such as “I’ve never been in a position where I have had to” (R382), “Not sure! Would have to research this one” (R509), and “I’ve no idea! Who advises primary school pupils on musical performance related stress?” (R569).

⁹⁸ Alternative therapy includes hypnotism, acupuncture, meditation, neuro-linguistic programming, Bowen’s therapy and mindfulness training.

4.2 Interview study

4.2.1 Introduction

The survey results reported in Section 4.1 indicate that many respondents see themselves, and other instrumental/vocal teachers, as central to health promotion and injury prevention. They also nominated representatives of other disciplines whom they believe should be involved in caring for the health of musicians. Teachers' perceptions of their interactions with other professionals have not been investigated. Research was needed to investigate in more detail whether those involved in supporting musicians' health and well-being are interacting in a multi-, inter-, or trans-professional manner (see Section 2.1.3). Difficulties relating to communication and professional boundaries could then be addressed in a more informed way. An interview study was designed to investigate teachers' perspectives on the concept of a collaborative approach to health promotion and the advantages and challenges associated with this approach.⁹⁹

4.2.2 Method

Participants

I invited survey respondents¹⁰⁰ to participate in the interview study and selected the final sample based on availability, location (to enable face-to-face interviews), teaching instrument and environment, and level of experience. See Table 4.15 for an overview of information about the 12 interviewees.

Materials

I constructed the semi-structured interview schedule based on existing literature, insights gained from my previous research (Norton, 2012), and my professional knowledge. There were four sections: Musician and teacher, Musical performance and PRPs, PRPs in pupils, and Teachers as health promotion advocates. The interview schedule was personalised based on participants' survey responses (see Appendix E for interview schedule template) and a summary of survey responses was constructed for the interviewer's reference (see Appendix F for summary template). Interviews took place in private rooms at RNCM, in interviewees' homes, or in my home and lasted between 35 and 98 minutes (mean=72 mins).

⁹⁹ Interviews also investigated teachers' identity, education, qualifications, development of teaching strategies, personal health experiences, and health-related beliefs and behaviours in more detail than was possible in the survey study but results are not reported in this thesis owing to space limitations.

¹⁰⁰ Only the 256 respondents who indicated a willingness to participate in further research were contacted.

Table 4.15: Information about interview study participants

Pseudonym	Interview length	Interview location	Age	Sex	Teaching instrument family	Teaching experience	Genre of musical activities	Self-reported professional identity
Henry	70 mins	RNCM teaching room	70	M	Keyboard instruments	11-20 years	Classical, jazz, early music	Musician who performs and teaches
Mary	55 mins	Mary's house	68	F	Keyboard instruments	31-40 years	Classical	Instrumental teacher
Felicity	86 mins	RNCM office	62	F	Keyboard instruments	>40 years	Classical	Instrumental teacher
Harriet	75 mins	Harriet's house	57	F	Keyboard instruments	31-40 years	Classical, jazz contemporary	Instrumental teacher
Gemma	90 mins	Gemma's house	55	F	Voice	5-10 years	Classical, world contemporary	Vocal teacher
Sophie	75 mins	RNCM office	54	F	Plucked strings	31-40 years	Jazz	Performer-who-teaches
Kate	75 mins	Kate's house	50	F	Percussion	21-30 years	Classical, contemporary	Instrumental teacher
Amelia	56 mins	Amelia's house	49	F	Woodwind	5-10 years	Classical	Performer-who-teaches
George	75 mins	George's garden	30	M	Plucked strings	11-20 years	Jazz, contemporary	Musician who performs and teaches
Scott	98 mins	Researcher's house	23	M	Brass	3-4 years	Classical	Postgraduate researcher
Ben	35 mins	Ben's shared house	22	M	Bowed strings	1-2 years	Classical	Performer-who-teaches
Lauren	70 mins	RNCM seminar room	21	F	Woodwind	1-2 years	Classical	Classroom music teacher

Note: The information in the right-hand six columns (age, sex, instrument, experience, genre, and identity) is drawn from interviewees' responses to the survey study.

Procedure

The last section of the interview was preceded by a discussion of how interviewees thought that health-related information could be distributed: for example, if they indicated on the survey that health information should be available throughout musical development I asked them to suggest how they thought this would work in practice in terms of content, accessibility, and delivery. After exploration of this subject I introduced interviewees to the concept of a collaborative team approach to health promotion using an introduction based on the following paragraph:¹⁰¹

Performing arts medicine specialists are healthcare professionals who have chosen to specialise in the treatment/management of performance-related problems amongst performing artists. Many specialists and researchers in the performing arts medicine field are suggesting that instrumental/vocal music teachers should act as active members in a multi-disciplinary team¹⁰² aiming to decrease the number of performance-related problems amongst musicians.

Following this introduction I invited interviewees to discuss whether they think it is reasonable and appropriate for teachers to act as health promotion advocates, what this role might include, whether teachers are already engaging in such a role, and the extent to which training and support that is currently available equips teachers to carry out this role. Further discussions focused on who might be involved in a collaborative team, how those individuals might work together, and in which environments a team approach would be most suitable.

Data analysis

I analysed interview data according to guidelines for thematic analysis outlined by Braun and Clarke (2006): see Section 2.3.2 for more details. Interviews were recorded using a portable Dictaphone and I transcribed verbatim transcripts using Express Scribe.

Transcripts were checked against the original recording and interviewees were invited to remove or alter information that identified them or that they did not wish to be included. Analysis of the resulting transcripts was driven by my theoretical interest in teachers' perspectives on a collaborative approach to health promotion and instrumental/vocal teachers' roles within a health promotion team. I coded data according to a pre-existing

¹⁰¹ Some interviewees were more familiar with this concept than others; those who were familiar tended to start answering or discussing the subject halfway through the introduction whereas those to whom this was an unfamiliar concept occasionally needed a more in depth explanation.

¹⁰² This term was used as it was likely to be the most familiar to respondents and is the term most commonly used in PAM literature. Interviewees discussed scenarios and gave suggestions that cover all forms of professionalism outlined in Section 2.1.3, not just those that are defined as 'multi-professional'.

framework that included identification of potential team members in the PAM literature, nomination of the teacher as a health promotion advocate, and questions about preparation for this role. In the following section quotations are used to illustrate themes and interviewees are referred to by pseudonyms.

4.2.3 Results

Interviewees suggested that a range of people should be included in health promotion for musicians including: various types of doctors (e.g. GP or rheumatologist), counsellors, Alexander Technique teachers, physiotherapists, massage therapists, psychologists, music hubs and organisations, instrument-specific specialists, teachers and pupils. These suggestions echo the nominations made by survey respondents (see Section 4.1.4). Three interviewees stated that they already had access to some representatives of a health promotion team whereas eight did not believe that a team approach is consistently available to musicians in the UK. Gemma commented that “they’ve never formed a team, but there are lots of people out there to whom I would go for advice” but “if they were there in one little pot...that would be very useful”. Henry reported personal experience with various HCPs and stated that he would volunteer the names of those people to pupils. Mary, Sophie, Amelia, and Harriet suggested that it was difficult to know what is going on in other peoples’ lessons, for example:

...there might be some enlightened place in the UK, I haven’t heard of it...I think a lot of teachers are much more aware, but I don’t think...it’s a lack of integrated, co-ordinated strategy about how to go about it. There are a lot of people doing things on their own...But it’s a bit ad hoc. (Sophie)

Felicity recounted an incident where a colleague had attempted to seek help for a pupil but had been prevented from doing so by the pupil’s institution therefore she felt that the idea of integrating health promotion into institutions “has certainly got some mileage”. Lauren commented that it would be “fruitful...to have those discussions going on” and Harriet believes that the team approach used in mental health care (which she has professional experience of) could be applied to music.

None of the interviewees disagreed with the idea that instrumental/vocal teachers are ideally placed to act as health promotion advocates, or that this is a reasonable and appropriate role for teachers to play. Most interviewees supported this concept and agreed that it was “entirely appropriate” (Amelia), “totally reasonable...it would probably have to work that way” (George), and that teachers “should be involved much much

earlier to avoid the problems” (Felicity). Harriet suggested that because music is already cross-curricular (e.g. teaching Maths through rhythm) it would not be a big step to include health promotion in music teaching as well. Likewise, Mary believed that teachers have “an ideal opportunity to teach all kinds of things beyond what appears to be their job”. Kate was more reserved and suggested that it would be appropriate as long as teachers had access to relevant information. Gemma also warned that care must be taken so as not to “suffocate the beast”, by which she meant introduce too many roles and requirements resulting in teachers being overloaded. Gemma stated that, in her experience, teachers of singing are “very aware” of their pupils’ health and that this is “inescapable” for singers as the voice is “more vulnerable to being knocked off its perch and losing pitch and tone” than other instruments. However, with the exception of Gemma, interviewees were unsure as to whether UK teachers were engaging in health-promoting roles. Once again there was a difficulty associated with not knowing what goes on in other teachers’ lessons (raised by Harriet and Ben) but the general feeling was that “it would completely depend on the tutor...it’s not institutionalized at all. It’s not the norm” (George).

Almost universally, interviewees reported that the health-related information that is currently available is not sufficient to prepare teachers for a health promotion role. Gemma and Lauren had taken tertiary-level courses that did not include formal health education. Amelia attended an institution that runs a pedagogy module which she believes dealt with MPA and physiological aspects; however, she commented that “linking that to teaching is not always done overtly, so it depends on the individual and how ‘up’ they are on putting things together”. George tried to recall whether the CPD sessions available via his teaching agency had ever focused on health and concluded “if there has it’ll be one in the past 9 years”. Felicity stated that none of the music teacher training courses that she is aware of or had attended address health promotion. The sole exclusion was Ben who felt that his training would “just about” provide him with the information and knowledge he needs, or as he said: “I reckon I could deal with most things”. Ben’s closest counterparts in terms of age and experience do not believe that the training available contains enough information to allow a teacher to be a health promotion advocate (Lauren) and is instead “a complete lottery based on where you work and who you work with” (Scott). Gemma said she “had access to good training” and Sophie commented that many people are “taught very well” and pass this on to their

pupils. However, Felicity suggested that as teachers “teach the way we were taught” if they were not made aware of health-related issues during their time as learners then they will not be able to teach about such issues. She also believes that many teachers do not know how to deal with their own PRPs and are therefore unable to help their pupils.

Seven interviewees discussed the need for teachers to develop a more formalised awareness of health promotion. Amelia believed that she is “more clued up than most” because of her background in nursing; when thinking about young teachers she said “there must be things on university courses, is there? I don’t know...”. Mary commented that “it is to my pupils’ detriment that I’m a better teacher now” and suggested that young teachers should be more aware of the possible problems. Sophie suggested that the lack of an integrated national policy has resulted in a situation where there are “pockets where it is fine...pockets where this is absolutely nothing...and pockets where it is sort of ok”. Felicity suggested that teachers must be involved early on to help pupils avoid PRPs and subsequently “put the word out” to other musicians; she believes that this can be achieved by providing teachers with access to relevant resources. Lauren wanted to learn more about physical problems so that she could “help in a meaningful way” and would like to gain health-related knowledge through interaction with members of a health promotion team. Kate stated that reading a book or doing an e-training course is inadequate preparation as teachers need practical experience and the opportunity to ask questions. Henry queried whether teachers would need to do “extra qualifications in a little bit of psychiatry...or the Alexander Technique” to be able to act as health promotion advocates. Felicity suggested that a CPD course that involves one-off days delivered over the course of a year by medics (“because I want to know that they really know what they’re talking about”) coupled with “a teacher who I can respect” would be ideal. However, Gemma commented on the dangers of putting people off teaching, or contributing to teachers losing confidence “because they didn’t have all of these things” – she suggested that the more specialised teaching becomes the more it’ll be “Us and Them” resulting in people being excluded.

Despite their positive and somewhat wistful (‘in my dreams’, ‘in an ideal world’, ‘Ooo, that would be nice wouldn’t it!’) reactions to the idea of a health promotion team for musicians, interviewees voiced concerns regarding practicalities such as cost, time, availability, communication between representatives of a health promotion team, dissemination of information to isolated teachers, funding issues, and who would benefit

most from access to a health promotion team. Scott referred to pupils ending up “between a rock and a hard place” if they received contrasting advice from team members. Amelia believed “there could be some merit in working together” but found it difficult to imagine how that would work in practice. Sophie, Felicity, and Amelia questioned how you reach “the myriad of private teachers who are not affiliated to any kind of official bodies” (Amelia) and whether teachers who are teaching for “pin money” (Felicity) would be motivated to engage with training. Sophie suggested that teachers are “doing great stuff” but because they are “scattered to the four winds” it is hard to get hold of them. Two interviewees raised the concern that supporting a health promotion team would cost money; this led Kate to suggest that teachers may be in a better position to help younger pupils. Sophie had practical advice regarding accessing funding from charities, organisations or the government to run a pilot study and test whether introducing a health promotion team is feasible and effective.

Interviewees generally believed that access to a health promotion team would be more appropriate for those who are ‘serious’ about music:

I think [at] the low end of the pyramid shall we say – that the benefits of musicking are great. The more concentrated you get, the more hazards there are, and the more careful you’ve got to become, the more specialised knowledge, and the more of a team of back-up that you’re going to need....I think that if you’re down here – teaching the bottom of the pyramid – you’re dealing with common sense. (Gemma)

I think [the idea of a health promotion team is] fantastic but I, I also wonder whether when it’s a smaller level, for instance when it’s um children in a sort of, 6 – 8 in a football team are not going to have a physio and a...they’re going to have a coach who does everything for them. So I suppose a music teacher at that level would be...and when people get higher in their levels of playing and performance that’s when they need those other things. (Kate)

Scott could imagine how a health promotion team might be helpful in the “rarefied environment” of a conservatoire, but could not see how such an approach would work in a “broader sense”. Henry believes that those who are intending to be professional performing musicians should have access to a health promotion team but suggested that “less is probably advisable” for amateur pupils. However, Kate feels that access to a health promotion team might be practical if a teacher was working in a school with a lot of pupils and Sophie stated that these opportunities should be available to all musicians.

4.3 Discussion

The second research question sought to explore the health-promoting behaviours of UK instrumental/vocal teachers who participated in a survey study and follow-up interview study. In the current research listening to pupils and providing advice related mainly to primary prevention, and reporting or referring pupils related to secondary prevention. The majority of responses to the survey focused on primary prevention whereas the interview study responses reported in this chapter focused on secondary prevention. Results are discussed below under the headings *Primary prevention* and *Secondary prevention* with reference to previous literature.

4.3.1 Primary prevention

Posture and technique

Respondents most commonly reported that they consider teachers to be responsible for conveying information about 'posture' and 'technique'. Most suggested that teaching posture and technique 'correctly' can prevent problems, but a few also referred to the potential to enhance performance. The term 'enhancing performance' has become more popular over the course of the last few years as a means to encourage musicians to engage with techniques that can also prevent PRPs (see, for example, Sternbach, 2008 and Williamon, 2004); it is possible that respondents who referred to this concept had read resources that use this term. Previous research identified awkward posture as a risk factor for musculoskeletal disorders (see Section 2.1.1) and the importance of teaching 'correct' posture and technique is frequently mentioned by researchers and educators (e.g. Harris, 2008; Ranelli et al., 2011; UpJohn, 2014). Research with instrumental teachers in the USA and Germany showed that teachers consider posture, overuse and technique to be risk factors for performance-related pain and musculoskeletal disorders (Gembris & Ebinger, 2015; McKechnie & Jacobs, 2011; Quarrier, 1995) but an Australian study indicates that teachers may not be equipped with knowledge about physiologically-optimised movements and postures (Rickert et al., 2015). The results of this study indicate that UK instrumental/vocal teachers believe that posture and technique are important and are taking steps to address these factors in lessons.

Respondents gave detailed examples of their strategies for addressing posture and technique in terms of adapting the instrument and/or environment. Some respondents commented that they do not prescribe posture but rather give pupils guidelines and allow

them to make themselves comfortable. Very few respondents described what they mean by 'correct' posture and technique. Despite the emphasis on posture and technique, many music education resources do not explain what 'good' posture is. Resources relating specifically to health promotion do include descriptions and diagrams of 'good' posture for musicians but there is frequently disagreement between resources (Horvath, 2010; Paull & Harrison, 1997; Rosset i Llobet & Odam, 2007; Watson, 2009). One of the key difficulties associated with posture is that every instrument and musician is different and therefore it is infeasible to set rigid guidelines. Shoebridge et al. (2015b) generated a theory of optimal posture that may serve as a framework for teachers to refer to when teaching pupils about posture. It is also difficult for teachers to describe posture verbally; investigation of teachers' inclusion of postural education in lessons could be furthered using observational methods.

Teachers in the current study advocated a number of strategies for dealing with postural problems including suggesting changes to the posture or body mechanics, adapting the instrument, and investigating the cause of the problem; previous research with teachers reported similar results (Gembris & Ebinger, 2015; Redmond & Tiernan, 2001). Many respondents described their strategies for addressing posture and tension but the extent to which their pupils make use of this information is unknown. Research with young musicians suggested that most pupils did not report speaking with teacher(s) about performance-related pain or injury prevention (Britsch, 2005); the researchers expressed surprise at these results as they were aware of several instances when orchestral conductors had discussed injury prevention with respondents. Hildebrandt and Nübling (2004) reported that whilst the teachers in their study believed their teaching style had changed, their pupils reported little difference in teachers' practices. Further research is needed to compare and contrast the actions and perceptions of teachers with those of their pupils. Gaunt (2011) conducted this type of research with teachers and pupils to investigate the one-to-one learning environment; this model could be adapted to investigate health promotion in the context of instrumental/vocal lessons.

Ergonomic adaptations

Respondents gave instrument-specific suggestions relating to the ergonomic aids that they use to help pupils adapt their instruments. Suggestions were detailed and diverse but contained common themes focusing on trying to improve pupils' posture and technique by making the instrument more comfortable and easy to use. In some cases

teachers used 'home-grown' solutions and in others they made use of commercial products; their choice of ergonomic aids sometimes depended on the pupil's financial position. Previous research has suggested that many instruments need adapting to 'fit' the player comfortably and various ergonomic aids are available (see Section 2.1.5). Only one respondent in this study explicitly rejected the use of ergonomic aids to change the set-up of a violin.

Teachers' involvement in choosing an instrument was referred to by less than a tenth of respondents. Comments relating to this included guiding pupils' choice of starting instrument (type, size, weight and set-up), suggesting whether a pupil starts on an adapted (e.g. curved flute head-joint) or different instrument (e.g. Clarinéo¹⁰³ or smaller brass instrument), and taking care when allowing pupils to move to a bigger instrument. Moving to a larger instrument is a potential risk factor for musculoskeletal injury (Norris, 1993) and researchers have suggested that providing teachers with anatomical and physiological knowledge may help to reduce problems caused by introducing instruments of an inappropriate weight, shape or size (Davies & Mangion, 2002; Ranelli et al., 2011). Many respondents were aware of the need to adapt instruments to suit pupils and gave detailed advice about how they achieve this: however, they did not necessarily agree on what was the best course of action. Responses relating to ergonomics appeared, in many cases, to be the result of 'trial and error'; resources that provide guidance on adapting the instrument or environment in relation to specific instrument groups may be helpful.

Tension and relaxation

Reference to tension and relaxation was mentioned by a relatively small group of teachers across responses to various questions. Responses generally lay along a spectrum between 'tension' and 'relaxation' but most responses fell in the middle of this spectrum and referred to staying relaxed and avoiding unnecessary tension. Previous researchers similarly suggested that musicians should play with an economic technique that does not use excess muscular tension (Altenmüller & Jabusch, 2010; Frederickson, 2002). Relatively few respondents gave examples of how they help pupils to adapt 'tension' and 'relaxation' but many referred to encouraging pupils to use principles from body awareness disciplines such as the Alexander Technique and Yoga. Institutions and

¹⁰³ A company called 'nuvo' makes and distributes flutes, clarinets, and recorders for children, including the Clarineo which is designed to be lighter, easier to manage, resistant to rough treatment and ready to play straight out of the case (see <http://www.clarineo.co.uk/origins.asp> for more details).

resources commonly encourage musicians to participate in body awareness disciplines (e.g. Hallam & Gaunt, 2012; Tomlinson, 2012; Watson, 2009). As yet, there is limited research suggesting that such techniques are effective for managing physical PRPs and further research is necessary. Previous research has suggested that, despite the emergence of biofeedback techniques, music teachers still rely mainly on qualitative approaches to performance feedback (Chan & Ackermann, 2014); the results of this research support this finding as no respondent reported using biofeedback techniques.

Noise and hearing problems

Previous researchers have suggested that teachers play an important role in controlling pupils' exposure to noise and educating pupils about the causes and consequences of hearing loss (Chesky, 2008; Santucci, 2009). Very few teachers in this study reported that they consider teachers to be responsible for pupils' hearing or that they spend time optimising the instrument or environment in relation to hearing. A slightly larger group reported discussing the prevention of hearing problems with pupils, but most did not describe what they discuss. Comments from respondents who did give details mirrored published recommendations in terms of playing more quietly, reducing performance time, taking 'quiet breaks', adjusting the room layout, avoiding sources of loud noise, choosing appropriate repertoire, improving venue acoustics, or using hearing protection (see Rosset i Llobet & Odam, 2007, p.59-60). It is not clear whether hearing protection is not a key issue for instrumental/vocal teachers or whether other factors influenced the low proportion of respondents who referred to it. Further research that explicitly asks teachers whether they provide hearing-related advice to pupils, and what that advice includes, will be needed to investigate this in more detail.

Healthy practice habits

Quite a few respondents reported that they advise pupils to warm up prior to playing/singing and cool down afterwards; it is not clear from the findings of this study what teachers include in recommended warm-up/cool-down sessions. Many of the teachers in a study by Barrowcliffe (1999) reported asking pupils to carry out a playing warm-up (e.g. long-tones, scales, or short practice passages) but a much smaller proportion recommended that pupils carry out a physical warm-up (e.g. stretching and breathing exercises). Future research could investigate what teachers currently include in warm up/cool-down sessions using observational techniques. BAPAM recently published

a compilation of warm-up exercises for musicians;¹⁰⁴ researchers could conduct an intervention study to investigate whether these warm-ups are practical and effective when used by instrumental/vocal teachers with pupils. Relatively few respondents to this study commented on teaching pupils how to practise in terms of content, timings and breaks. Although teachers are aware that pupils experience problems they may not be following recommendations from PAM research such as encouraging pupils to only practise a certain amount each day, take breaks during practice sessions, and not vary the amount of practice too quickly (Ranelli et al., 2015). The six piano teachers who participated in research by McKechnie and Jacobs (2011) all stated that they talk to parents about practice strategies and the importance of proper technique during practice and rated these factors as 'very important' but did not give specific details regarding what they do. Very few respondents reported that they discuss repertoire choices with pupils despite researchers emphasising the importance of appropriate repertoire choices (Blackie et al., 1999; Britsch, 2005; Horvath, 2008; Heman-Ackah et al., 2013; Kenny, 2011; UpJohn, 2014).

Researchers have suggested that teachers are in a position to help pupils establish healthy practice habits: e.g. conducting a physical warm-up/cool-down, doing appropriate stretching, taking breaks, pacing practice sessions, avoiding repetition, and including alternative practice techniques (Altenmüller & Jabusch, 2010; Guptill & Zaza, 2010; Horvath, 2008; Zaza, 1994). Only a small proportion of respondents to this research referred to teaching pupils about healthy habits suggesting that these topics are not being consistently addressed in lessons; however, respondents were not asked to list everything that they currently do or believe to be beneficial. Future research could use the suggestions made by teachers in this study to construct a full list of potential activities relating to healthy habits. Teachers could then indicate the extent to which they engage in each activity which would give a more accurate representation of the proportion of teachers who engaged in health-promoting behaviours relating to healthy habits.

Physical learning environment

Respondents referred to optimising the physical learning environment in a number of ways including addressing factors such as lighting, music stand height, fresh air and room temperature, ambiance, position in the room, lack of distraction (e.g. extraneous noise),

¹⁰⁴ Resource available online at

http://www.bapam.org.uk/documents/A4DontCrampYourStyleWarmUps_BAPAMFactsheet.pdf

personal space, accessing a quiet space and avoiding family space at home, and clothing. Environmental factors such as these are potential risk factors for musculoskeletal, hearing and voice-related problems (see Rosset i Llobet and Odam, 2007). The arrangement of the room in terms of where the pupil(s), accompanist, and teacher are located was also mentioned. Quite a few respondents advocated the use of mirrors in the teaching and practice environment to allow pupils to see their posture and facial expressions. Vocal teachers stated that they ensure that the learning environment is clean, pupils have access to water, and the room has an appropriate acoustic and is an appropriate size for the activities being undertaken. Music lessons take place in private studios at teachers' homes or rented facilities, on school premises, or within a musical institution (e.g. a music centre, conservatoire or music department). In a private studio environment teachers may be more able to control environmental factors such as those suggested by respondents, but in a building that they do not own that may be difficult. Piano teachers in research by McKechnie and Jacobs (2011) suggested that appropriate lighting affects pupils' performance the most as it can cause headaches and affect posture. Other research has not investigated the extent to which teachers believe it is important to optimise their physical teaching environment. The number of respondents who referred to adapting the physical learning environment was relatively low considering the total sample size but responses were detailed and referred to factors that have been identified in previous research. Further research should investigate how teachers set-up the physical learning environment using observational methods.

Psychological learning environment and psychosocial risk factors

Caring for and discussing psychological performance-related health was a key theme in this research. Establishing a secure and healthy psychological learning environment was frequently linked to building pupils' confidence as people and performers. Quite a few respondents derided teaching approaches that involve bullying, berating, browbeating, or belittling pupils because these approaches can ruin pupils' confidence. The importance of constructing a safe psychological learning environment for musicians has received increased interest in recent years. Researchers have suggested that teachers should make lessons interesting and challenging, recognise the social consequences of participating in musical activities and promote rewarding peer relationships, encourage pupil autonomy and allow pupils to influence their activities, and discourage pupils from over-dependency on their teacher (Burwell, 2005; Evans et al., 2012; Gaunt, 2008; Kupers et al., 2014).

Research with adult pupils also emphasised the importance of facilitating communal music-making from the beginning of tuition and helping adult learners to feel supported, unthreatened and able to make mistakes (Perkins & Williamon, 2013). Respondents to the survey referred to many of the aspects of a positive learning environment identified by previous research. They reported teaching their pupils to accept that very few performances are 'perfect', that there is in fact no such thing as 'perfect', and that pupils should let mistakes go and focus on the positive aspects of the performance. These results are in line with suggestions from research regarding reframing 'perfection' as 'excellence' and taking joy in *performance* rather than *perfection* (Altenmüller and Jabusch, 2010; Patston, 2014; Tomlinson, 2012). Further research is needed to focus on this issue using a variety of methods, in a range of educational contexts, and with input from teachers and pupils.

Throughout this research respondents gave examples of how they help pupils to prepare for performance. A small group of teachers referred to supporting pupils' confidence; previous research with tertiary-level students has highlighted the importance of a friendly and approachable teacher regarding building confidence and avoiding anxiety (Stevanovic, 2015). One of the most common performance preparation strategies suggested by teachers involved familiarising the pupil with the venue and performance procedure. Simulation training is commonly used in disciplines such as medicine (Kneebone, 2015) and has started to be used in music education (see <http://www.rcm.ac.uk/cps/simulator/>). Most teachers will not have access to performance simulators therefore familiarising pupils with the venue and procedure is a simple but effective way of helping them understand what the performance will involve. A number of teachers suggested that learning the material thoroughly can prevent anxiety. Knowing the material well is certainly likely to enhance the pupils' perception of the resources that they have available to cope with the demands of the performing situation (see Section 2.1.1), but Kenny (2011) emphasises that MPA can occur regardless of whether the performer is thoroughly prepared. If pupils are thoroughly prepared they may still experience MPA and teachers should be equipped with other strategies to help pupils in this situation.

Teachers commonly referred to helping pupils develop healthy mental behaviours and strategies to cope with performance. In particular, respondents referred to modifying pupils' relationships with their audience and/or the music but there was disagreement

between respondents with some suggesting that pupils should engage with the audience, whereas others advocated excluding the audience. Ford (2013) investigated and compared acting and music students' approaches to performance and found that acting students see the audience as an integral part of the performance whereas most music students suggested that they see the audience as irrelevant to the performance. Following a collaborative project that integrated the two strands of performance students, the music students reportedly began to see their performance more as an interaction between members of the ensemble and the audience and to describe their relation with the audience as a two-way dynamic. Future research could investigate in more detail what teachers convey in terms of the performer's relationship with the audience, and what effect this has on pupils' MPA.

Respondents regularly referred to ensuring that pupils have opportunities to perform and practise their performance preparation techniques. This involved having regular lessons, encouraging pupils to play to stuffed toys, family, fellow pupils and friends, hosting performance classes and informal concerts, and encouraging pupils to seek out other opportunities to practise performing. Kenny (2011) suggested that pupils should be offered frequent, low-stress opportunities to perform from early on in their musical training so that performance is seen as an "integral, enjoyable, and manageable part of their musical education" (p.288). Previous researchers have suggested that performance-preparation programmes may be effective in reducing the incidence or severity of MPA among musicians (Clark & Williamon, 2011; Kenny, 2004; Osborne & Kenny, 2008; Rae & McCambridge, 2004). Suggested programmes include increased practice strategies, deep breathing, positive self-talk, frequent and low-stress performance practice, reduced exposure to adverse evaluative performance situations, and psychological/mental skills training that encourages pupils to evaluate their performance and modify problematic cognitions. Respondents to the current research are already engaging in many of these performance preparation strategies, and future research should investigate existing behaviours using observational and discussion methods prior to attempting interventions.

Healthy lifestyle

Approximately a quarter of respondents suggested that instrumental/vocal teachers bear at least some responsibility for pupils' home/school life and general well-being or fitness. Most believe that teachers should listen to pupils who are experiencing difficulties that are not related to their performance and offer advice where appropriate to remove

barriers to performance and progress. Previous research has suggested that instrumental and vocal teachers could encourage pupils to take part in regular exercise, engage in healthy habits and appropriate sleep patterns to maintain a healthy lifestyle (Altenmüller & Jabusch, 2010; Blackie et al., 1999; Frederickson, 2002; Zaza, 1994). The results of this research indicate that some teachers are already doing so, but that a large proportion may not be (i.e. they did not refer to it in response to this study), and that some teachers do not believe it is appropriate to give advice relating to general health and lifestyle. Further research should be conducted to investigate why some teachers believe they are responsible for general health, what kind of advice they give, and whether teachers' suggestions are in line with recommendations from public health literature.

4.3.2 Secondary prevention

The majority of teachers who participated in this research believe that teachers should be involved in health promotion for musicians echoing previous research which indicated that teachers are frequently the 'first port of call' for pupils seeking advice (Gembris & Ebinger, 2015; Norton & Greasley, 2014; Petty, 2012; Williamon & Thompson, 2006). Ranelli et al. (2015) suggested that music educators may be surprised to know that there is a high prevalence of PRPs among young musicians; however, most of the teachers involved in the current study and previous research (Barrowcliffe, 1999; Gembris & Ebinger, 2015; Quarrier, 1995) reported that they had taught pupils with a PRP. When asked specifically whether they would advise pupils with a PRP and/or refer them onwards over three-quarters of respondents reported that they would offer at least some advice and three-quarters would refer pupils onwards (most commonly after offering some advice). In respondents' open-ended comments 'referring' differed from 'reporting' in terms of who took the action: teachers who would 'report' a problem generally portrayed themselves as taking the action to pass details along to another authority whereas teachers who would 'refer' passed the onus for action to the pupil to seek professional advice. Further research should investigate this further and distinguish between whether it is teacher or their pupil approaching representatives of other disciplines. Respondents were asked whether they would offer pupils advice for 'basic' or 'complex' problems but these terms were not defined; respondents did not object to these terms or find it difficult to differentiate but future research could use 'real-world' examples to investigate in more detail when teachers would listen and advise pupils and when they would report or refer.

An important aspect of developing a health promotion programmes relates to identifying which specialists should be involved. In the current research the majority of respondents would refer pupils to a doctor, send them to see a physiotherapist, osteopath or chiropractor, or suggest that they engage in lessons with a body awareness specialist. Although dated, previous research with teachers suggests that they already are, or are interested in, working with a range of HCPs to address health promotion (Barrowcliffe, 1999; Brandfonbrener, 1989-90; Quarrier, 1995; Redmond & Tiernan, 2001). Over 25 years ago Brandfonbrener concluded her seminal work with American music teachers by stating that results indicated that those in the medical world “have not yet completely lost the respect of you, the music teachers” (Brandfonbrener, 1989-90, p.24) and that sharing practice between medical and musical fields would be of benefit to both disciplines. One previous study investigating instrumental/vocal teachers’ referral pathways indicated that American teachers in 1999 most commonly referred pupils to a doctor, physiotherapist, massage therapist or campus health service but also to musicians, chiropractors, and body awareness specialists (Barrowcliffe, 1999). Further research is needed to investigate why teachers choose to refer pupils to representatives of certain disciplines.

The current research asked respondents to suggest who they believe should be considered ‘responsible’ for pupils’ well-being and health; respondents nominated instrumental/vocal teachers, pupils, pupils’ family and educational institutions, and HCPs. The suggestion that a teacher is responsible for providing good advice was prevalent throughout participants’ responses, often coupled with the belief that pupils and their families are responsible for acting upon that advice. Relatively few respondents suggested that HCPs are responsible for musicians’ health and well-being. This result contrasts with the number of respondents who suggested that they would refer pupils to HCPs and supports the assertion that HCPs are unlikely to be involved in the initial stages of music education or play a formative role in musicians’ developing beliefs, attitudes and approaches to music education and health promotion. Low representation of musicians in the PAM field may therefore be hampering movement towards prevention rather than cure of PRPs: HCPs generally interact with musicians who have already developed a problem, and at that point it is not possible to prevent the said problem. Further research should investigate UK instrumental/vocal teachers’ professional interactions with pupils, parents, institutions and HCPs in more detail.

Collaborative approaches to health promotion

Taylor and McEwan (2012) identified three different types of professional interaction in the context of sports coaching: multi-professionalism, inter-professionalism, and trans-professionalism (see Section 2.1.3 for details). Survey respondents mainly referred to multi-professional style interactions with representatives of other disciplines: e.g. they would identify a problem and refer/report it to the pupil, their family, or a representative from another discipline. The extent to which respondents were involved with on-going care and discussions relating to PRPs once they had reported or referred pupils is unknown. Professional boundaries were frequently mentioned and survey respondents commented that it is important for teachers to know where their expertise stops. On the whole, interviewees reported that they were not aware of musicians in the UK having consistent or reliable access to specialist health promotion teams. Where interviewees were aware of such networks it was usually as a result of seeking help for personal health concerns. The current approach to health promotion for musicians as reported by survey and interview participants most closely aligns with a multi-professional model. This echoes the suggestion from Gaunt (2011) that musicians may have access to an input from a number of professionals, but those individuals rarely work as a team.

Survey and interview participants supported the idea that instrumental/vocal teachers are ideally placed to act as health promotion advocates. It is clear from survey respondents' detailed strategies for addressing pupils' health and well-being (see Section 4.1) that many teachers are already providing advice on a range of topics not necessarily related to performance. Interviewees agreed that teachers are in an ideal position to act as health promotion advocates and many interviewees reported doing so already. However, survey respondents raised concerns that the information they had received was not sufficient to enable them to act safely and with confidence, particularly in relation to psychological problems. They also recounted situations where they had witnessed other teachers dealing poorly with similar situations. The professional development courses that interviewees had attended did not directly address health and very few had received health-related information during their performance training. Several interviewees expressed a desire to be better informed about psychological approaches to performance and exhibited frustration at finding themselves in a position to help but not having the knowledge to do so effectively. Interviewees believed that most health-related information would need to be delivered by instrumental/vocal teachers, particularly for

beginner pupils, and they wanted more information to enable them to deal with situations effectively. Kenny (2011) suggested that in many cases teachers are unlikely to have garnered the skills and knowledge needed to deal appropriately with pupils' disclosures of health concerns. From the results of this research it appears that teachers are expected (by pupils, colleagues and institutions) to work trans-professionally, without necessarily having access to resources that enable them to do so effectively.

Only one survey respondent suggested that after referring a pupil to HCPs the teacher should take on an advisory role: this was an isolated case and it was not clear whether the teacher was in direct contact with other professionals. The interview study was designed to open discussion regarding a collaborative approach to health promotion. The concept of inter-professionalism was regarded highly by interviewees but they raised concerns regarding how an inter-disciplinary approach would work in practice in terms of money, time, and resources. These concerns must be explored in more detail to develop health promotion programmes that are appropriately suited to their target environment and which will be well received by teachers and other stakeholders. Most interviewees suggested that an inter-disciplinary approach would be most appropriate for musicians who are performing professionally, or aiming to perform professionally. Calls for a collaborative approach to health promotion for musicians are relatively new therefore it is perhaps unsurprising that interviewees did not believe that such an approach is consistently applied across music education in the UK. The reactions of interviewees suggest that providing an inter-professional health promotion team for beginner pupils may not be feasible or, in some cases, necessary. None of the interviewees taught at conservatoires; it would be interesting to interview musicians who teach at conservatoires as the results of this research suggest that their beliefs may be somewhat different. Participants' comments placed instrumental/vocal teachers at the heart of health promotion, either as a sole advocate or the centre of a health promotion team.

4.3.3 Summary of chapter

In this chapter I presented results relating to survey and interview study participants' health-promoting behaviours and beliefs about health promotion for musicians. In the next chapter I will address the third research question by exploring survey respondents' health-related beliefs, sources of health-related information, and associations between respondents' characteristics (i.e. demographics, education, and experience of PRPs) and their responses to survey questions.

Chapter 5: RQ3 Results and Discussion

This chapter addresses the third research question:

What influenced teachers' health-promoting behaviours?

Information presented in this chapter relates to the survey study; results are presented in Section 5.1 and discussed in Section 5.2 in relation to previous literature. Results are drawn from responses to Questions 28-42 (see Appendix B); 426 respondents started this section and 408 completed it. This chapter will consider what influenced respondents' health-promoting behaviours (see Chapter 4) by focusing on three areas:

- i) Respondents' reported beliefs regarding responsibility for pupils' health and well-being (drawn from responses to Questions 28 and 29)
- ii) Respondents' reported sources of health-related information and awareness of a range of relevant resources (drawn from responses to Questions 35-42)
- iii) Analysis of associations between respondents' demographic characteristics, educational pathways, and performance-related health and their responses to Questions 28-42.

5.1 Results

5.1.1 Beliefs regarding responsibility for pupils' health and well-being

Respondents rated the extent to which they believed that instrumental/vocal teachers are responsible for their pupils' health and well-being (see Figure 5.1).

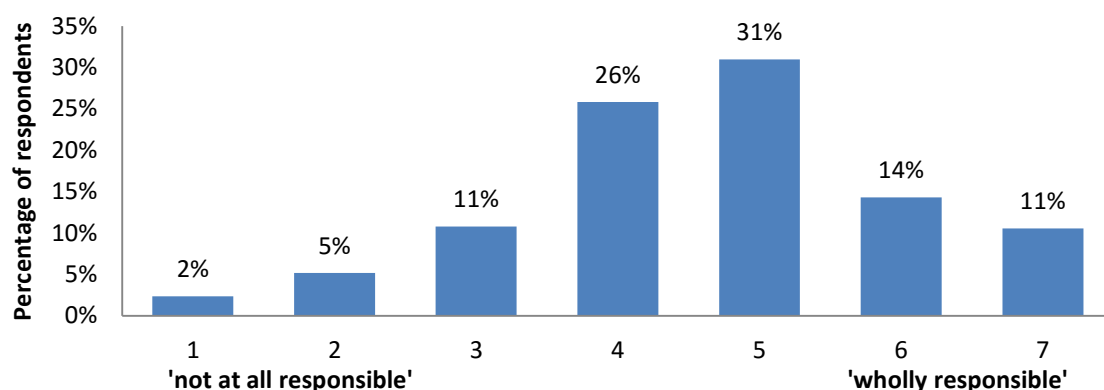


Figure 5.1: Respondents' perceived level of responsibility for pupils' health and well-being ($N=426$). The Likert scale ranged from 1 'not at all responsible' to 7 'wholly responsible': the mean ranking was 4.63 ($SD=1.40$), the median was 5 and the mode was 5.

A total of 420 respondents explained why they do, or do not, consider teachers to be responsible for pupils' health and well-being. Responses were categorised into five themes as outlined in Section 4.1.1. Comments relating to 'Position of responsibility' and

‘Factors limiting responsibility’ are discussed below as they relate to what influenced respondents’ health-promoting behaviours. Out of the 420 respondents who answered Question 29 only six disliked the word ‘responsibility’: comments included that the word “smacks of lawsuit from some prickly lawyer’s offspring” (R391) and “we cannot assume we all mean the same thing by it” (R555). A woodwind teacher commented as follows:

If you hold a teacher responsible for a student's health, I think this becomes too defensive and pressured relationship. My role as a teacher is to love, support, nurture and give advice - but not to be responsible for my students' actions...THEY are responsible for themselves. (R241)

Position of responsibility

Approximately a quarter of respondents who answered Question 29 (24.5%, $n=103$ of 420) referred to instrumental/vocal teachers as occupying a position of responsibility. Responses related to why respondents believe it is a position of responsibility (*‘Reasons’*), scenarios that may arise as a result (*‘Implications’*), and how teachers should act in certain situations (*‘Actions’*):¹⁰⁵ see Figure 5.2.

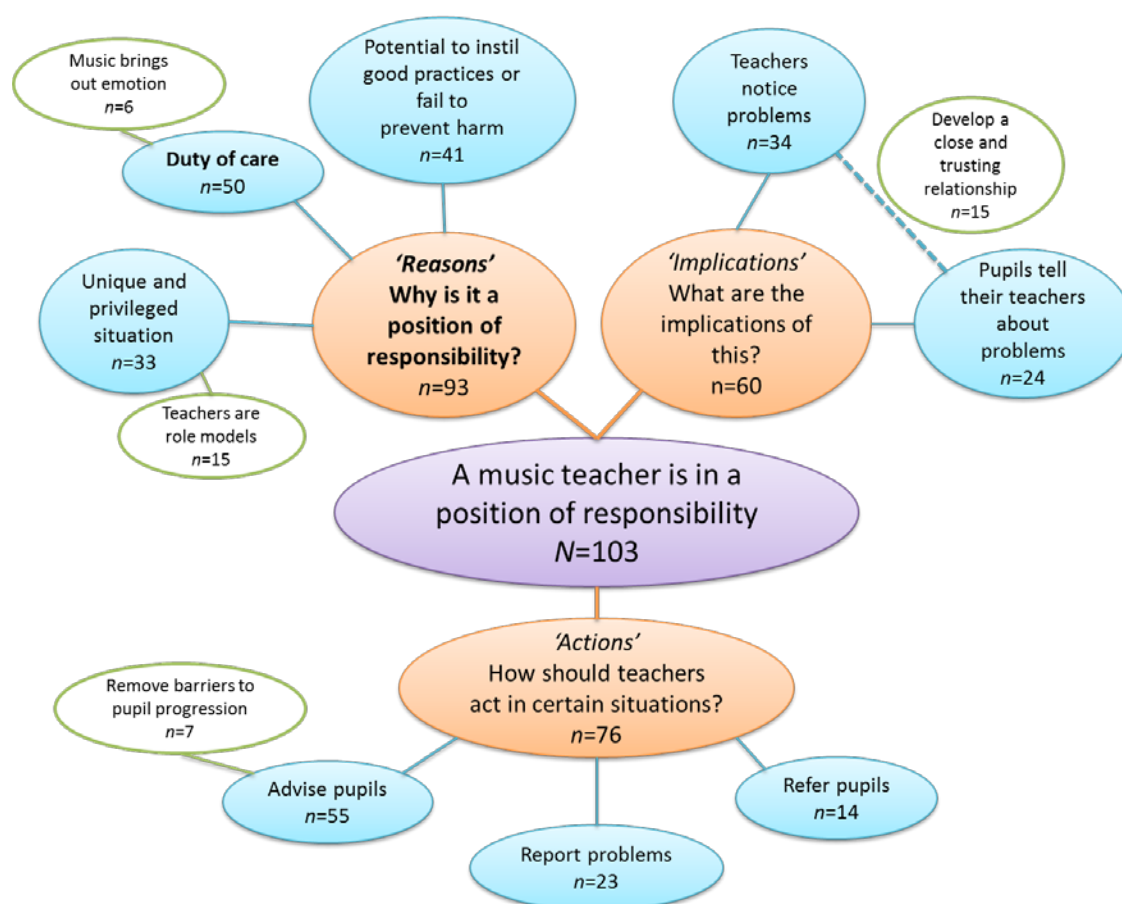


Figure 5.2: Themes relating to teaching as a position of responsibility. *Note:* These themes were drawn from responses to Question 29.

¹⁰⁵ Data relating to ‘Actions’ were presented in Chapter 4.

Reasons

Nearly all of these respondents (90.3%, $n=93$ of 103) explained why they consider teaching to be a position of responsibility. Twenty-six used the word 'duty' suggesting that teachers have 'have a duty of care', a 'duty to try and help' and a 'social duty' to inform parents or teachers of problems. Seven used the phrase 'in loco parentis' and twenty others used phrases such as 'health and safety', 'pupil welfare' and 'compliance with child protection procedures'. Six respondents highlighted the importance of pupils' emotional well-being: e.g. "music brings out emotion in students" (R507) and "emotional health issues need to be considered [because teachers] encourage students to open up emotions that they may otherwise keep bottled up" (R211). Thirty-three respondents commented on the one-to-one teaching environment – five respondents used the word 'unique' and another five used the word 'privileged' – and remarked that instrumental/vocal teachers are often "the only adult external to [the pupil's] family/social group that they see one-to-one on a regular basis" (R571). Related to this concept of a 'unique and privileged' situation is the idea that teachers are role models for their pupils because "pupils frequently copy teacher's behaviour and so base their own attitude to their health and well-being on that of the teacher" (R221). Fifteen respondents suggested that teachers should 'provide a good example' and 'demonstrate and promote good playing posture and practice habits'.

Forty-one respondents stated that teachers can prevent harm through 'good teaching' or conversely cause harm through 'poor teaching', for example:

...Good teaching can enhance wellbeing and enjoyment through correct technique and posture, advice on general health- aerobic exercise and not smoking, positive mental attitude and sense of self-worth. Poor teaching can do the opposite. (R131)

Respondents suggested that teachers should 'instil good practices' to help pupils 'obviate practice-related physical stresses', 'avoid problems from the outset' and not 'open them up to completely unnecessary injuries'. Some respondents also related this to enhancing performance and making sure that pupils 'maximize progress and minimize problems' between lessons and 'enjoy the positive aspects of performing'. Twenty-four respondents¹⁰⁶ suggested that music tuition can enhance pupils' general well-being because "teachers are giving music lessons and music is so important to well-being" (R473); see Table 5.1 for examples.

¹⁰⁶ Responses drawn from the theme 'Miscellaneous' identified among responses to Question 29.

Table 5.1: Examples of the belief that music tuition can enhance pupils' well-being

R#	Illustrative quotations
43	I accept that there are many factors which can have an impact on individual wellbeing and many of these will be out of a teacher's control. However, I believe strongly in the power of music as a means to enhance health and wellbeing and promote singing in particular as a therapeutic medium.
153	...The teacher should advise on how to safeguard (or even improve) physical well-being while playing
443	[Music] is a primarily social, communal activity...My arts practice is not therapy but it is therapeutic, we engage in artistic activity in order to understand and communicate our sense of being alive, of expressing feelings and ideas.
500	... The therapeutic effect of self-expression through music, particularly during the troubled teens, is vital and perhaps the shared journey helps to cement confidence and trust...

In contrast, respondents mentioned the need for teachers to 'steer the student away from harmful habits' because they could fail to prevent harm through their inaction: e.g.

...If a student is straining themselves surely it's on a par with torture: just because something doesn't hurt now doesn't mean it won't later. I look back to many of my pre-college teachers and wonder why none of them mentioned the elephant in the room: the tension I played with (and still do, to an extent), and the unnatural position of my right hand. (R368)

Furthermore, a handful of respondents referred to the potential for teachers to actively cause harm to their pupils through their actions rather than as a result of inaction:

...you can actually cause a child physical damage if they do not hold the instrument correctly... (R128)

...If the teacher doesn't focus on a posture which is conducive to comfortable music-making, leaving a pupil to either suffer or remain ignorant as to how to play an instrument correctly then they are doing a disservice to the pupil... (R134)

Approximately half of the teachers who responded to Question 29 (47.9%, $n=201$ of 420) identified physical performance-related factors that they believed teachers should be responsible for (see Section 4.1.3). Respondents' reasons for focusing on these factors were not discussed previously. Responses relating to physical factors were coded into four mutually exclusive categories:

1. Teachers should teach factor(s) correctly
2. Teachers should teach factor(s) correctly to **prevent problems**
3. Teachers should teach factor(s) correctly to **enhance performance**
4. Teachers should teach factor(s) correctly to **prevent problems and enhance performance**

Figure 5.3 depicts the nine physical factors that respondents referred to (purple bubbles) and categories of reasons for addressing those factors (orange bubbles). An additional 11 respondents reported that teachers should make pupils aware of physical risk factors but did not explain why.

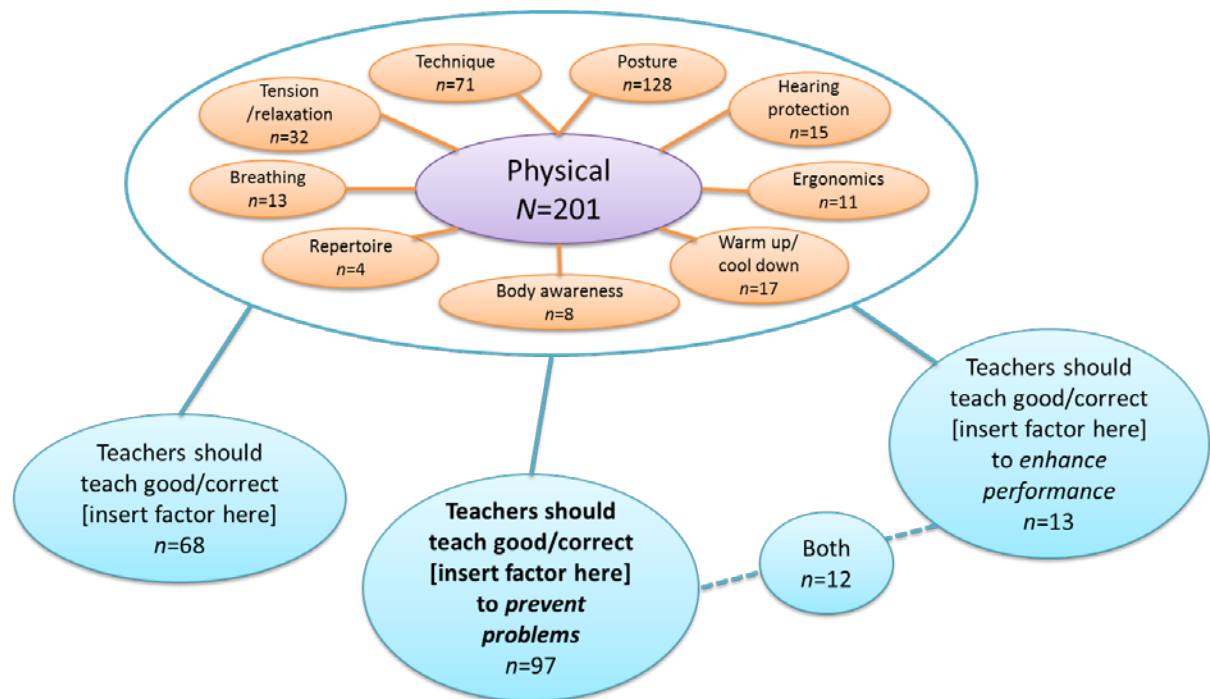


Figure 5.3: Themes relating to physical performance-related health. *Note:* These themes were drawn from responses to Question 29.

Approximately a third of respondents (33.8%, $n=68$ of 201) suggested that teachers are responsible for teaching certain physical factors ‘correctly’. These respondents did not specify why a teacher should do this or what the outcome might be if factors were not taught correctly. Very few described what they meant by ‘correct’ beyond stating that it should be ‘relaxed’, ‘healthy’, or ‘good’ and the responses focused around posture, technique and tension/relaxation. Nearly half of respondents (47.8%, $n=96$) suggested that teachers should teach physical factors ‘correctly’ to prevent the development of PRPs. A greater proportion of these respondents referred to the less commonly mentioned physical factors (e.g. repertoire, breathing, ergonomics, warm-ups etc.). One respondent suggested that teachers should know about the physiology of playing their instrument, relay this to their pupils and – if a pupil reports aches and pains – “be able to diagnose why that pain is being caused and to suggest reasonable action to go about rectifying this” (R568). Just over a tenth of respondents (12.4%, $n=25$) commented on the potential for teaching certain factors ‘correctly’ to enhance pupils’ performance: 13 of these only mentioned enhancing performance whereas the other 12 referred to enhancing performance and preventing PRPs. Table 5.2 gives examples of respondents’ comments relating to teaching physical factors ‘correctly’, and teaching those factors ‘correctly’ to prevent problems and/or enhance performance.

Table 5.2: Examples of teaching physical factors ‘correctly’ to prevent PRPs and/or enhance performance

R#	Illustrative quotations
Teach factors 'correctly'	
75	Teachers are responsible for teaching their students a healthy body/ hand position for their instrument, good breathing techniques and also a healthy attitude and guidelines for practice...
121	...teachers are responsible for ensuring pupils adopt correct breathing techniques (diaphragmatic/abdominal breathing) and for supporting the voice using abdominal muscles.
144	...correct technique and posture, correct range and age appropriate repertoire....
254	...good posture and playing positions; how to play economically, without strain; to 'warm up' into practice; 'little and often' rather than 'everything in one session'.
Teach factors correctly to prevent problems	
54	... music teachers ought to be responsible in best practice when it comes to posture, ergonomics, general fitness, warming up, practising intelligently so as not to overuse the body, being aware of tensions, correct use etc...
278	It is important to conduct lessons according to the age and ability of the pupil, i.e. for a teacher of singing not to give young pupils songs which are too advanced for them and will strain the voice...
311	...if a singing pupil of mine were to suffer undue laryngeal stress because I had failed to advise them about proper precautions for maintaining vocal health, I would certainly feel responsible...
506	...responsible for teaching correct technique to minimise risk of performance related injury and to make students aware of risks from noise.
520	... In string playing early teaching, and continual review, of posture and instrument and bow-hold is vital to avoid potential life-long problems.
617	...Awareness of the psychology of the student so that difficult areas can be negotiated - e.g. the strong desire of the student to tackle works well outside their zone of proximal development and which the teacher might suspect could cause physical problems...
Teach factors correctly to enhance performance	
243	... Regarding instrumental technique, I think teachers should always stress to students that technical development and physiologically healthy playing are interdependent...
249	...the whole body needs to be in good working order for the singer to reach his or her potential, this can include diet, fitness, posture and psychological well-being...
328	...be aware of posture and strain aspects because it hampers performance and tonal qualities.
Teach factors correctly to prevent problems and enhance performance	
55	...emphasise the need for good posture, related to breathing capacity as well as to avoid potential shoulder/back problems; also good hand/arm position but more to assist good playing practice than for student's health...
267	With shoulder stringed instruments, violin and viola, it is crucial that technique is taught correctly from the start. Poor posture causes physical discomfort and repetitive strain pain. Correct posture produces better quality of sound and that increases confidence in the ability to perform....
272	...teach my pupils to play their instrument in as natural a way as possible to avoid physical pain in both the short and long term. I also believe that they will be better performers and able to cope with nerves or anxiety more readily if they have been taught to play in a natural relaxed manner....

Implications

Approximately three-fifths of respondents (58.3%, $n=60$ of 103) who referred to teaching as a position of responsibility offered scenarios that may arise as a result of that position. Thirty-four suggested that teachers are in a position to 'note a student's frame of mind' and 'spot early signs of other health or psychological problems'. Several respondents reported that an instrumental/vocal teacher is often the first person to identify a problem (prior to other teachers); e.g., teachers are "able to pick up on problems of any nature before a class teacher" (R44), and often "the first person in a school to know about divorce and family break-down, pets dying, moving house etc." (R416). One respondent listed the range of problems they have witnessed: "[I've] seen children go through a

range of issues, including systematic bullying, anorexia and near suicide... it would be a dereliction of duty to ignore sudden, unexplained change in demeanour” (R500). Fifteen respondents stated that there is often a trusting relationship between teachers and pupils; for example, a respondent with 20 years’ experience reported that pupils “are disposed towards a certain level of trust and openness with their instrumental/vocal teacher that may not occur readily elsewhere” (R170). Twenty-four respondents also suggested that pupils often disclose problems to teachers: see Table 5.3.

Table 5.3: Examples of pupils confiding in their instrumental/vocal teacher(s)

R#	Illustrative quotations
150	...Students will often tell a trusted one-to-one teacher problems about their private life that they might not be able to tell a parent (boyfriend troubles etc.)...
571	...When I was in my teens I had several instrumental teachers who I would confide in and divulge to over matters that I felt unable to with any other adult. Having now been in the position of the teacher for some years, I have had numerous students do the same with me. This is an invaluable outlet for many young people and of course must be treated delicately and with discretion...
608	... In the past year, for example, I have helped a young teen through bereavement...and a late-teen Muslim pupil whose mother threatened to send her to Pakistan for an arranged marriage...If a kid (or indeed adult pupil) needs to offload then that <i>is</i> part of the job and will result in happier, confident music making.

Conversely, one respondent commented that: “...I know plenty of friends who wouldn't dream of divulging their personal lives to their teachers as it can make the professional teaching relationship different” (F23).

Situational factors

Respondents referred to a number of situation-specific factors that they believed affect the extent of their perceived responsibility or whether they would listen to, advise, report, or refer pupils. These factors included the type of problem the pupil reported, the pupil’s age and ability, factors relating to contact time, the pupil-teacher relationship, respondents’ educational pathways, and personal experiences of PRPs. These responses, drawn from responses to Questions 29 and 32, are explored below.

Type of problem

Over three quarters of respondents who answered Question 29 (79.3%, $n=333$ of 420) commented on which topics they believe teachers re responsible for: general health only ($n=10$), performance-related health only ($n=203$), both general **and** performance-related health ($n=62$), and general health because it supports performance-related health ($n=58$). These four mutually exclusive categories are depicted as pink bubbles in Figure 5.4 with related sub-themes in blue and purple bubbles.

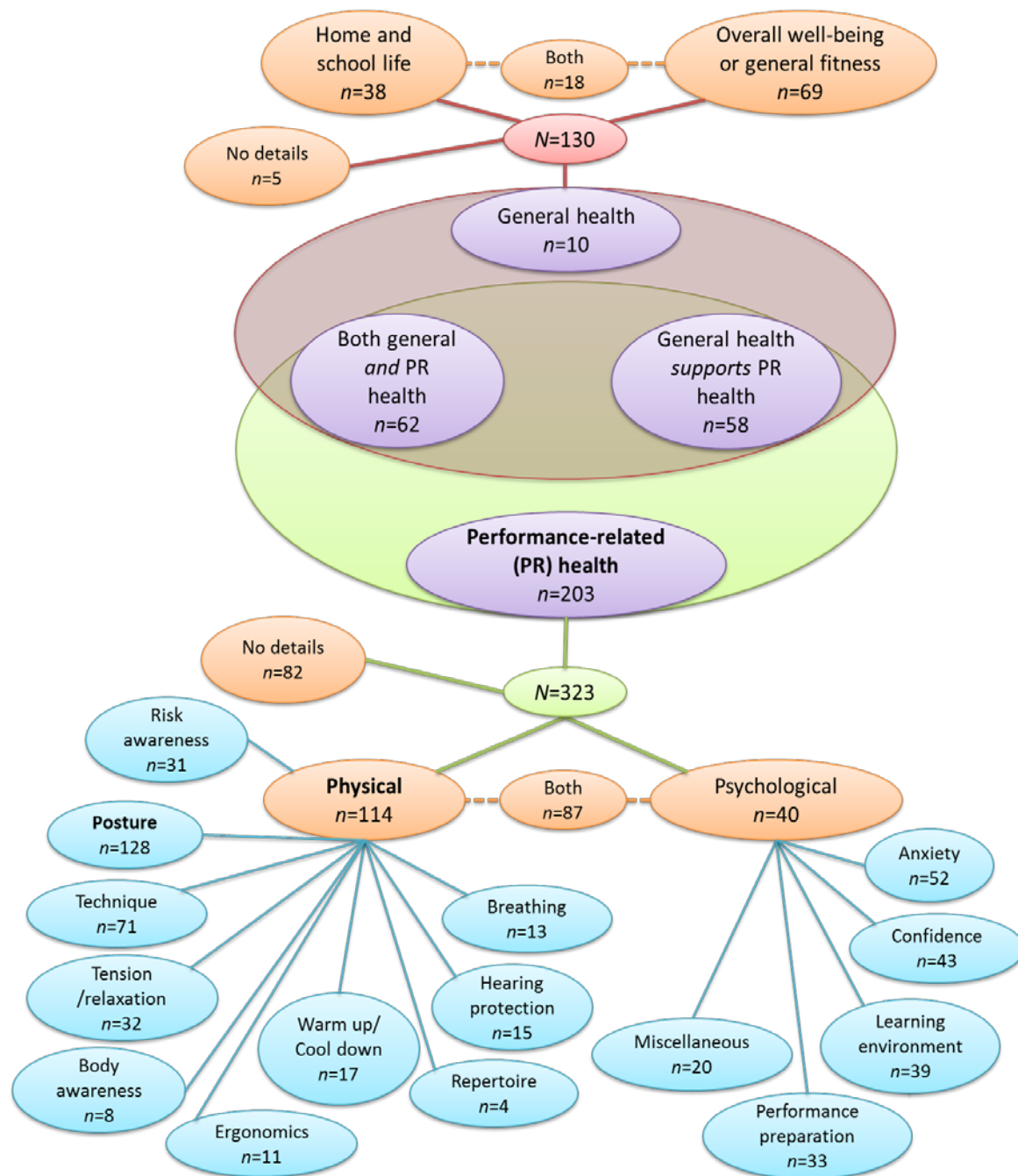


Figure 5.4: Themes relating to perceived responsibility for various aspects of health-related music education. *Note:* These themes were drawn from responses to Question 29.

Respondents' comments relating to these categories have been discussed previously. Nearly all respondents included in this theme (97.0%, $n=323$ of 333) considered instrumental/vocal teachers to be responsible for some aspect of pupils' performance-related factors whereas just under two fifths (39.0%, $n=130$) considered teachers to be responsible for aspects of pupils' general health. The course of action that respondents would choose to take sometimes varied according to the *type* of problem in question. One teacher explained how they approach physical and psychological PRPs:

...**With physical problems** I tackle it overtly – identifying and isolating the problem and proposing a solution to it; I persist with correcting a bad physical habit, even if the student is reluctant or slow to adapt....**With psychological issues** I try to gain a broader understanding of the student’s position by discussing other topics...I will use a lot of reassuring and encouraging language with the student before considering tackling the problem; sometimes it seems better not to expose the real issue, but rather to attempt to remedy it obliquely with plenty of positive reinforcement...**If a student is suffering from a straightforward performance-anxiety issue** I will talk about it with them frequently in lessons in order to ‘de-mystify’ it, and give them practical ways of overcoming the symptoms... (R170, emphasis added by researcher)

Pupils’ age and experience

Twenty-seven respondents reported that their perceived level of responsibility reflects their pupils’ age and/or experience, for example: “the type of information or activity and the way I deliver it very much depends on age and stage of development” (R359). Most of these responses related to teachers feeling more or less responsible for groups of pupils: in particular, nine respondents suggested that teachers are more responsible for young/beginner pupils and four believed that teachers are responsible for older/advanced pupils (see Table 5.4 for illustrative quotations).

Table 5.4: Examples of perceived responsibility for pupils of differing age/ability

R#	Illustrative quotations
Teachers are more responsible for young or beginner pupils	
25	Children’s bones are very soft, therefore I think that it is our duty to make sure that they do not injure themselves. I always tell my pupils, you only get one back, so look after it.
541	...At certain ages, the teacher is more responsible because the student is not yet able to completely understand &/or take responsibility, so the teacher has greater need to monitor things. At other age levels, the student is entirely capable of understanding & acting on issues related to this question, & so the responsibility is shared between student & teacher.
Teachers are more responsible for older or advanced pupils	
382	At the level I currently teach I don’t believe I have much responsibility towards my pupils’ wellbeing - most people suffer physical problems on my instrument through repetitive strain, and my pupils will not be playing for the hours a day required to bring on symptoms...
586	the more serious the student, the more hours he/she practises and the more he/she actively participates in many competitions etc., the more responsible the teacher becomes for the student as whole person / performer...

The concept of transferring responsibility was mentioned in Section 4.1.4 as it related to the sharing of responsibility between teacher and pupil. This concept is also relevant to the current section as some respondents reported that the age/ability of a pupil would influence their behaviours because older and more advanced pupils should be starting to take responsibility for their own health and well-being: e.g.

The younger the pupil, the more responsibility is on the teacher. Once pupils reach adulthood they need to take some of that responsibility upon themselves, under the guidance of the teacher... (R78)

...Ultimately I believe the pupil must become responsible for their own well-being, and this process, like all of teaching, will be a gradual transfer from me to them. So I might feel wholly responsible for a 4 year old, but I would expect an 18 year old to act on my advice and other available advice, and be more or less responsible for themselves. (R149)

Location, contact time, and factors that teachers can influence

Thirty-five respondents stated that instrumental/vocal teachers can only be responsible for pupils' well-being 'during lessons', 'while they are present', or if pupils are 'in their care'. Many respondents *hoped* that their advice is followed outside lessons but were aware that they had little control over this. Twenty-three respondents commented that there are issues surrounding the limited amount of time that teachers have with their pupils: for example, "teachers cannot be with their students 24/7" (R146) and "there is only so much a teacher can do in a 30 minute-1 hour lesson" (R29). Other respondents focused on the difficulty of including everything in a short lesson: e.g. "there is a limit to how much teachers can actually do, due to contact time" (R188). Eleven respondents referred to lesson content: for example, responsibility is "limited to the factors they can control" (R3), or "things we can influence" (R124). Another respondent suggested that their ability to care for pupils' health is limited by pupils' parents being able to afford appropriate equipment otherwise children might end up with "poor instruments, flimsy colourfully attractive but useless neckstraps, ineffective ligatures, etc." (R251).

Relationship with pupil

A vocal teacher suggested that the level of responsibility depends on the relationship between teacher and pupil: "you have a deeper engagement with a long-term daily student than with a casual student...thereby you have a greater responsibility to speak your mind when something is amiss" (R96). Another group of 11 respondents suggested that teachers are "only able to deal with what is being presented" (R178) and provide "advice when solicited" (R145) or based on "what the student wishes to divulge/share" (R9). Some of these respondents commented that pupils need to ask for help, and have a "responsibility to themselves to tell their teacher if they believe learning an instrument is affecting their health" (R175). A respondent reported that "students don't give enough info at times for me to be able to give the best advice" (R510). Respondents noted that discussion about PRPs often varied according to the individual pupil; for example, some respondents only discuss PRPs if pupils raise the topic, 'only if it is important for the individual student' or 'only rarely, as problems present themselves'. This was often

mentioned in relation to MPA, with a few respondents suggesting that to discuss anxiety with a pupil who is not anxious could instigate anxiety in that pupil (see Table 5.5).

Table 5.5: Examples of discussing MPA with pupils if the topic arises

R#	Illustrative quotations
112	...All aspects of performance need to be discussed with students as they arise (i.e. I wouldn't start talking about performance anxiety if the student is completely confident...
161	I try to give my students advice regarding performance anxiety, but only if they raise this issue themselves, as I have found the mere mention of anxiety can bring it on!
584	...Regarding performance anxiety I would approach obliquely ensuring students are well prepared, practice performing and discuss their experiences, only referring to 'nerves' if students bring it up or if it is a particular issue for a student.

In contrast, one respondent reported that discussing PRPs is essential even with very confident pupils because "I don't believe pupils should get complacent and there is always more to learn and do" (R249).

Teachers' personal experience of PRPs

A small number of respondents suggested that personal experience – i.e. "mistakes we have made and overcome" (R466) – is a valuable tool for helping pupils with PRPs, for example: "my personal tale comes in handy" (R295) and "an experienced performer may feel able to draw on personal experiences" (R46). Thirty-five teachers reported that when discussing PRPs with pupils they refer to their own experiences, or those of colleagues and others, to aid their explanations. Respondents reported that they 'talk about experiences of self and other pupils', or share 'stories of my own experiences' and have a 'general discussion based around my own experience'. One respondent stated that they have discussed their professional life including "how I get work, how I chose my music college, the life style of a freelance musician and performance anxiety" (R363). Three respondents reported telling 'cautionary tales' relating to hearing problems: e.g. "I talk openly about it and explain that it is only because I was well advised relatively early on that any further deterioration has been halted" (R290). A vocal teacher (R536) reported discussing her personal experience of vocal disabilities and what she did to overcome those difficulties. Five respondents reported discussing musculoskeletal difficulties including telling stories of others that have suffered performance related injuries, referring to personal problems and how to avoid them, using their own experience to explain "why I am asking them to stand in a slightly different way" (R192), and recounting "the tragic number of professional musicians who work in pain" (R54). One hypermobile musician reported that they are "quite quick to pick up on problems I have had: I can spot a hypermobile student a mile off" (R368). Additionally, several respondents reported

concentrating on adapting pupils' posture as a result of a personal experience with a PRP that they attribute to poor posture: e.g. "my own shoulder problem was undoubtedly made worse by poor posture as an initially self-taught teen" (R608) and "after my own experience we always look at the importance of posture" (R259). The most common responses regarding personal experiences related to facilitating discussion of MPA with pupils: see Table 5.6 for illustrative quotations.

Table 5.6: Examples of sharing experiences relating to MPA with pupils

R#	Illustrative quotations
79	I do discuss various aspects of performance but as I never found a way of dealing with my nerves...I do find it a difficult subject to teach...
107	Having experienced performance-related problems myself, mainly to do with nerves which can severely affect breath management, I discuss ways in which these can be dealt with...
208	Yes I discuss performance anxiety with my students. I use lots of encouragement, and try to empathise with their situation – being a performer myself this is easy
397	... They know that I have performance problems and if I do perform in a home concert I always play a simple piece which I can play well which sends a strong message that being worried is not a reason to avoid performance...

Some respondents reported sharing how they have come to terms with MPA and others have used themselves as examples to reassure pupils. A few respondents reported that discussing MPA can be difficult because they still experience problems themselves: e.g.

I am very honest about my own performing nerves with the kids AFTER they've done G8! They are always jaw-droppingly amazed as I have never let it show... I am not a first study pianist but FORCE myself to accompany up to G6 at least and the kids have NO idea I am shaking from the ankles up beforehand and usually chucking up in a bucket throughout every exam session. I knew from very early on I could never perform, especially on flute where my mouth dries out SO much I physically CANNOT play... (R608)

Two respondents referred to trying to avoid "teacher-induced anxieties about performance" (R616) and strike a balance between "warning pupils about the negative things that might happen...and keeping a positive approach so that the teacher doesn't pass on their own concerns" (R559). Two respondents commented that because they had not experienced MPA they found it difficult to suggest "concrete ways to combat this" (R583) and have previously referred pupils to colleagues for help and advice (R571).

Teachers' health-related awareness and knowledge

Twelve respondents referred to the importance of teachers' knowledge in terms of them being able to respond appropriately to various situations: see Table 5.7 for examples.

Table 5.7: Examples of suggestions relating to teachers needing health-related training

R#	Illustrative quotations
457	...I think it is very important that music teachers have better training in these areas. Child protection courses are useful, when working in public institutions but this is not always enough.
496	Music teachers are not advised on how to teach students how to perform with total relaxation in their performances. Hence like myself years later, continuous playing causing severe neck problems through sheer muscle tension.
548	...Music teachers are unusual in developing closer relationships with their pupils than general teachers and should be equipped to cope with emotional and social issues.
571	...It is often difficult to know the extent to which one should offer advice, even when requested. I feel that I can be a good judge when it comes to such issues, however I know I am untrained in this field, and I have colleagues who I know to be highly incompetent in this region. I do believe that more emphasis should be placed on this aspect when training and hiring musicians to teach...
615	I do believe that teachers should be the first port of call in preventing problems developing in their pupils, which are related to the learning of the instrument they are teaching. Teachers should have a knowledge of basic physiology and awareness of the problems that playing their instrument can cause. The trouble is, this often comes with hindsight and is not part of any teacher training...

A few respondents commented on the need to increase teachers' health-related knowledge: e.g. one respondent reported that they believe they "need to know more about teaching how to manage performance anxiety" (R172). Another suggested that it is important for teachers to be "informed/reminded or trained more in psychological approaches to performance; I would personally like to be better informed in these areas" (R457) and a woodwind teacher gave the following response:

...many students will go on to teach themselves in the future and need to be able to recognise early symptoms and know how they might deal with these professionally. If students are displaying symptoms themselves, it is vital they are engaged in discussion from the outset so that they understand fully (and agree with) the strategies being used to help them (R247)

Seven respondents commented on the relationship between music and performance disciplines such as athletics, sports, gymnastics, therapy, and dance. Two drew parallels between sports coaches and music teachers, one of them suggesting that "teachers are like sports coaches and tutors rolled into one" (R217). Two respondents suggested that knowledge transferred from other disciplines is, or could be, helpful: "some knowledge of child/sports psychology would be valuable" (R615) and "I've found my dance training has helped me give good stretches and advice ...Yoga breathing exercises are especially useful for some anxious players" (R251). The remaining respondents compared the act of learning an instrument to other performance education with one suggesting that their pupils "don't often see music as a physical thing, so...I compare it to their favourite sport" (R214) and another suggesting that music practice is "a complex of the psychological, physiological and spiritual" and therefore "akin to a number of other disciplines" (R468).

5.1.2 Sources of health-related information and awareness of resources

Self-reported source(s) of health-related information

A total of 408 respondents reported where they had accessed health-related information. Seven of these respondents marked the question ‘not applicable’, nine wrote ‘No/None’, two preferred not to answer or did not understand, and three reported that they had limited health-related knowledge. The remaining 387 responses related to experience, musicians, reading, training, organisations and miscellaneous. Table 5.8 summarises the percentage of respondents who reported that health-related information had been gained via each category and further information about specific sources of information (including the percentage and frequency who reported each).

Table 5.8: Respondents’ sources of health-related information

General source of information (not mutually exclusive)	Specific source of information (not mutually exclusive)	% (N=408)	n
Experience (54.2%, n=221)	Personal experience	36.5%	149
	Teaching experience	9.6%	39
	Performing experience	8.1%	33
	Experience with a PRP	8.1%	33
Musicians (43.4%, n=177)	Colleagues, friends and family	31.4%	128
	Instrumental/vocal teacher(s)	20.8%	85
Reading (41.9%, n=171)	General reading	13.0%	53
	General researching	12.5%	51
	Reading books	11.8%	48
	Reading articles	10.5%	43
	Consulting the internet	5.4%	22
Training (27.0%, n=110)	CPD sessions	11.0%	45
	During a degree	9.8%	40
	Non-music training	4.9%	20
	Teaching qualification	2.0%	8
Organisations (19.1%, n=78)	Music-related organisations	16.4%	67
	Health-related organisations	7.1%	29
Miscellaneous (17.6%, n=72)	Healthcare professionals	10.5%	43
	Body awareness discipline	8.6%	35
	General knowledge or common sense	2.9%	12

Awareness of organisations

Respondents indicated whether they had been aware of a list of organisations¹⁰⁷ prior to completion of the survey. Figure 5.5 illustrates the percentage of respondents that reported awareness of music organisations, musicians’ organisations, and music education organisations. Nearly all respondents (99.3%, n=405 of 408) were aware of at least one music organisation, 95% (n=387) were aware of at least one musicians’ health organisation, and 65% (n=266) were aware of at least one music education organisation.

¹⁰⁷ Organisations were chosen by the researcher based on knowledge of the relevant music- and health-related organisations operating at the time of the study. The order that organisations were presented in was randomised by the survey software.

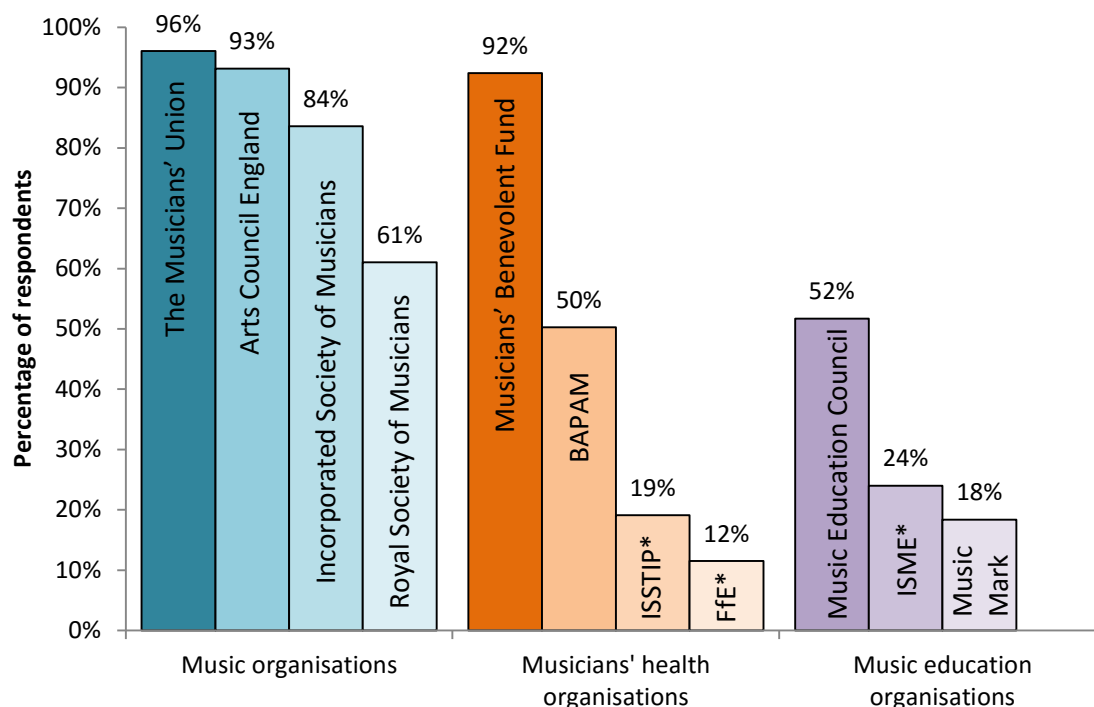


Figure 5.5: Respondents' awareness of music organisations (N=408). *Note:* International Society for the Study of Tension in Performance (ISSTIP), Foundations for Excellence (FfE), International Society for Music Education (ISME).

Respondents also reported awareness of other organisations: see Table 5.9 for further details of named organisations in instrument- or discipline-specific categories.

Table 5.9: Respondents' awareness of instrument- or discipline-specific organisations

Category of organisation (N=408)	Named organisations
Voice (47.3%, n=193)	British Voice Association, Association of Teachers of Singing, National Association of Teachers of Singing, European Vocal Teachers Association, Association of British Choral Directors
Keyboard (19.4%, n=79)	EPTA, Royal College of Organists, Oxford Piano Group
Bowed strings (16.7%, n=68)	ESTA, Colourstrings, The Violoncello Society of London
Woodwind (7.8%, n=32)	International or British Double Reed Society, British Flute Society, Flutewise, International Clarinet Association, Clarinet and Saxophone Association, European or British Recorder Teachers Association, Society of Recorder Players, Woodwind Teacher's Association
Guitar (7.6%, n=31)	International Guitar Foundation, Registry of Guitar Tutors, European Guitar Teachers Association
Brass (1.5%, n=6)	International Trumpet Guild, International or British Horn Society
Percussion (0.7%, n=3)	Percussive Arts Society, Drumsense
Community music (15.7%, n=64)	Sound Connections, Sound Sense
Kodaly, Suzuki or Dalcroze (4.9%, n=20)	British or International Suzuki Society, British Kodaly Academy, Dalcroze Society
Alexander Technique (1.7%, n=7)	Interactive Teaching Method, Society of Teachers of the Alexander Technique
Music therapy (0.7%, n=3)	Nordoff Robbins, British Music Therapy Association, Music Therapy Trust, Artscare, Drake Music Project

Awareness of books

Respondents indicated whether they had heard of, read some or all of, or owned the following 11 books (see Figure 5.6 for results):¹⁰⁸

- *Singing and teaching singing* (Chapman, 2011)
- *Musical excellence: Strategies and techniques to enhance performance* (Williamon, 2004)
- *The musician's body: A maintenance manual for peak performance* (Rosset i Llobet, J. & Odam, G., 2007)
- *The musician's way: A guide to practice, performance, and wellness* (Klickstein, 2009)
- *What every musician needs to know about the body* (Conable, & Conable, 2000)
- *What every singer needs to know about the body* (Malde, Allen, & Zeller, 2013)
- *Secrets of performing confidence: For musicians, singers, actors and dancers* (2nd ed., Evans & Evans, 2013)
- *The athletic musician: A guide to playing without pain* (Paull & Harrison, 1997)
- *The biology of musical performance and performance-related injury* (Watson, 2009)
- *Indirect procedures: A musician's guide to the Alexander Technique* (2nd ed., de Alcantara, 2013)
- *Playing (less) hurt: An injury prevention guide for musicians* (Horvath, 2010)

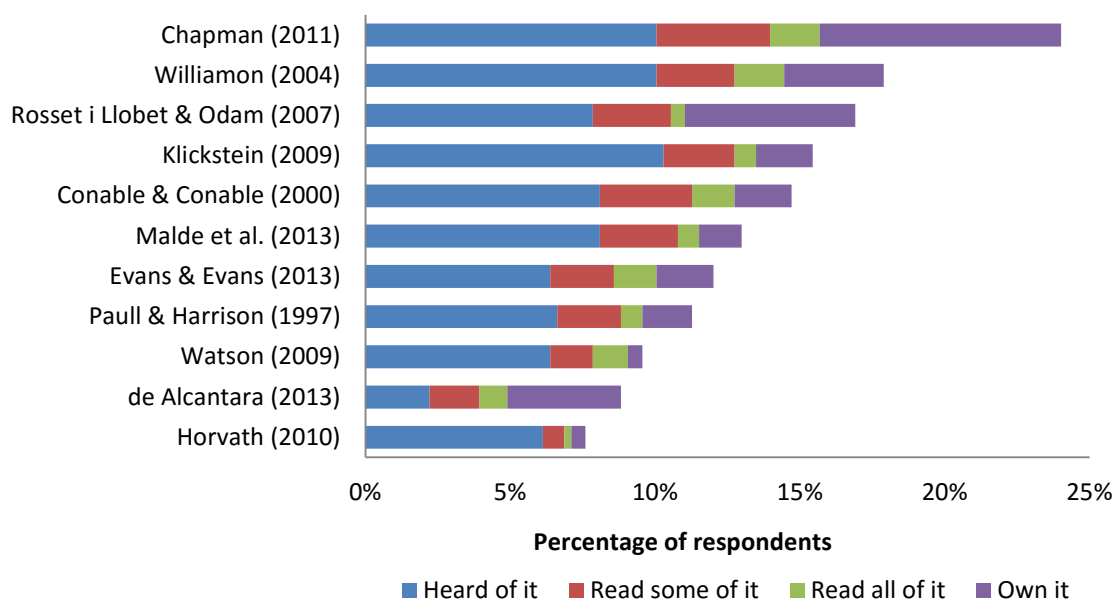


Figure 5.6: Respondents' awareness of a selection of books (N=408)

Overall, 19.9% respondents ($n=81$) had heard of at least one book, 13.2% (54) had read some or all of at least one book, and 19.4% (79) owned at least one book; 47.5% (194) had not heard of, read or purchased any of the listed books. Respondents also had the opportunity to indicate whether they were aware of any other relevant books. Fifty-six

¹⁰⁸ These books were chosen based on content, price, date of publication, and popularity with musicians and HCPs (see Appendix I for further details).

respondents mentioned *The inner game of tennis* (Gallwey, 1975) or *The inner game of music* (Green & Gallwey, 1986). The next most commonly mentioned books were *Effortless mastery: Liberating the master musician within* (Werner, 1996; $n=11$), *Healthy practice for musicians* (Andrews, 1997; $n=10$), and *Stage fright: Its causes and cures with special reference to violin playing* (Havas, 1973; $n=8$).

Awareness of other publications

Respondents indicated whether they subscribed or read any music- or health-related publications. Nearly two thirds of respondents (63%, $n=258$ of 408) did not report subscribing to publications or marked the question 'not applicable', and seven reported that they read various publications but did not subscribe to any. The remaining 143 responses were divided into four non-mutually exclusive categories: general music, instrument-specific, peer-reviewed and miscellaneous publications (see Table 5.10).

Table 5.10: Summary of publications that respondents read and/or subscribed to

Category of publication ($N=408$)	Named publications
General music (25.7%, $n=105$)	Incorporated Society of Musicians – Music Journal ABRSM – Libretto Rhinegold Publishing - Music Teacher Magazine Rhinegold Publishing – Classical Music Magazine Musicians' Union – The Musician Music Mark Magazine
Instrument-specific (11.0%, $n=45$)	ESTA – Arco EPTA – Piano Professional Association of Teachers of Singing – Singing The Strad Magazine Rhinegold Publishing - International Piano The British Suzuki Institute Publication The British Flute Society – Pan
Peer-reviewed (5.1%, $n=21$)	BVA – Logopedics Phoniatrics Vocology National Association of Teachers of Singing – Journal of Singing Society for Education, Music and Psychology Research – Psychology of Music Cambridge University Press - British Journal of Music Education
Miscellaneous (5.9%, $n=24$)	Psychology Now Pulse Equity quarterly magazine ISSTIP magazine Record Review RAM Club news

Use of internet resources

Respondents had the option to state whether they consulted any internet sources for health-related information. Most respondents (67%, $n=274$) reported that they had not consulted internet sources for health-related information. Twenty-four (5.9%) had consulted internet sources but did not provide details, often because there were too

many sources to name or they could not remember details. Of the remaining 110 respondents 20.9% (23) stated that they usually start with a general search – e.g. “I will look it up on the internet” (R35) or “pick up referrals from others on the Internet” (R54) – and another 12.7% (14) used search engine. A further 14.5% (16) had accessed the BAPAM or Help Musicians UK website, 10.0% (11) had accessed the ISM or MU websites, 11.8% (13) had visited the website of an instrument-specific society and 18.2% (20) had visited another named website (see Appendix G for a list). Four respondents had read articles recommended by contacts on Facebook and LinkedIn.

5.1.3 Associations between respondent characteristics and responses

Age and teaching experience

Reporting that health-related knowledge had been derived from ‘other musicians’ was significantly associated with age ($\chi^2(5)=15.291, p=.009$) and teaching experience ($\chi^2(4)=14.006, p=.007$). Likewise deriving knowledge from ‘experience’ was significantly associated with age ($\chi^2(5)=15.555, p=.008$) and teaching experience ($\chi^2(5)=15.793, p=.003$). Overall, younger and less experienced teachers were more likely to report having learned from musicians whereas older and more experienced respondents attributed knowledge mostly to experience.

Sex

Female respondents were more likely to describe teaching as a position of responsibility, suggest that teachers are responsible for pupils’ psychological performance-related health, report that they discuss performance preparation with pupils, and report that they have gained knowledge of health-related factors from training of some variety. Male respondents were more likely to report that they discuss hearing problems with pupils. In response to Likert scale questions female respondents’ were more likely to suggest that teachers’ are moderately/highly responsible for pupils’ health and well-being, and more likely to report spending a moderate to great amount of time adapting the instrument and/or environment. See Table 5.11 for statistical analyses.

Table 5.11: Relationships between respondents' sex and survey responses

Associated factors	Question number and type	Statistical test and result	Explanation
Sex and respondents' perceived responsibility for pupil health and well-being	Question 28 Likert scale from 1 (not at all) to 7 (very much)	Mann-Whitney test $U=15533.5$, $z=-2.839$, $p=.005$, $r=-0.14$	Females' ratings were significantly higher (mean=4.78, median=5) than males' ratings (mean=4.30, median=4.5).
description of teaching as a position of responsibility	Question 29 Open-ended text box	Chi-square analysis $\chi^2(1)=6.043$, $p=.014$	Based on the odds ratio females were 1.91 times more likely than males to describe teaching as a position of responsibility.
reference to teachers' responsibility for psychological performance-related factors	Question 29 Open-ended text box	Chi-square analysis $\chi^2(1)=9.897$, $p=.002$	Based on the odds ratio females were 2.22 times more likely than males to suggest that teachers have a responsibility for pupils' psychological health.
reported time spent adapting the instrument and/or environment	Question 30 Likert scale from 1 (not at all) to 5 (very much)	Mann-Whitney test $U=13701.00$, $z=-3.658$, $p<.001$, $r=-0.18$	Females' ratings were significantly higher (mean=3.88, median=4) than males' ratings (mean=3.43, median=3).
reported discussing hearing with pupils	Question 32 Open-ended text box	Chi-square analysis $\chi^2(1)=13.248$, $p<.001$	Based on the odds ratio males were 3.28 times more likely than females to report that they discussing hearing with pupils.
reported discussing anxiety with pupils	Question 32 Open-ended text box	Chi-square analysis $\chi^2(1)=15.540$, $p<.001$	Based on the odds ratio females were 2.45 times more likely than males to report discussing performance preparation with pupils.
reported learning about health and PRPs via training of some variety	Question 38 Open-ended text box	Chi-square analysis $\chi^2(1)=6.060$, $p=.014$	Based on the odds ratio females were 1.91 times more likely than males to report that they had learned about health from training.

Instrument

There was an association between respondents' instrument and describing teaching as a position of responsibility ($\chi^2(5)=12.154, p=.033$). None of the 22 plucked strings teachers commented on teaching as a position of responsibility. Thirty-six percent of woodwind teachers (25 of 70) provided reasons why they perceived teaching as a position of responsibility compared with 19%-23% of keyboard, vocal, bowed strings, and brass teachers and no percussion teachers.

There was a significant association between instrument and referring to teachers' responsibility for pupils' general health ($\chi^2(5)=25.570, p<.001$).¹⁰⁹ Overall, vocal teachers were most likely, and plucked strings teachers were least likely, to refer to responsibility for general health (see Figure 5.7).

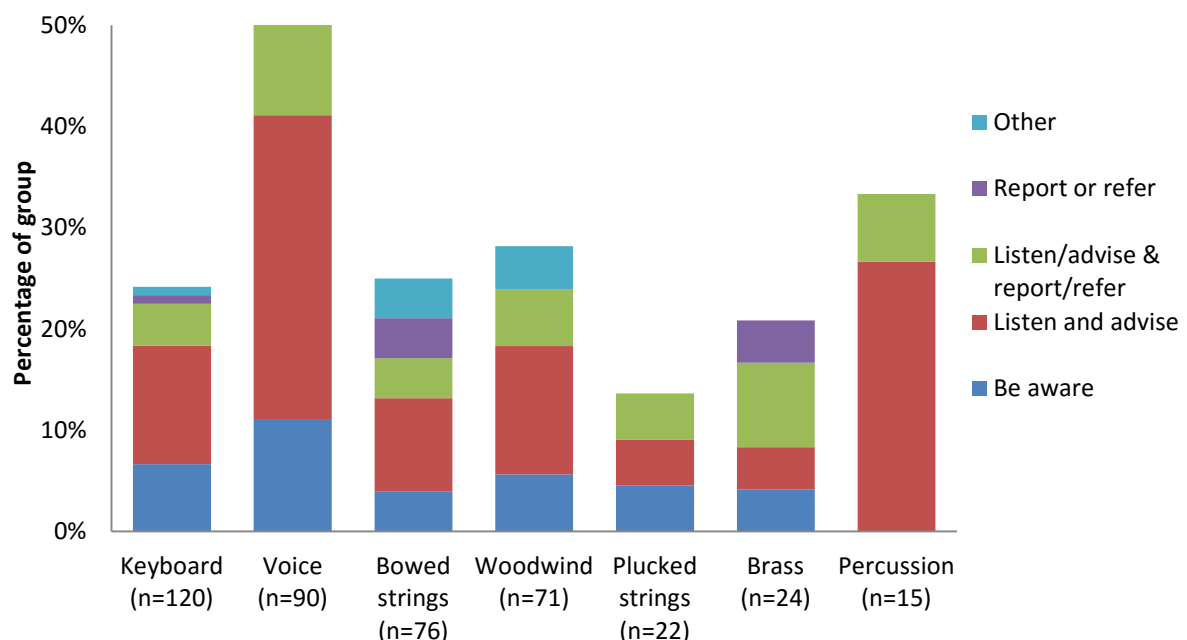


Figure 5.7: Reference to responsibility for general health by respondents who taught different instruments. *Note:* The total number of respondents in each group is shown next to the group label. Respondents who did not refer to general health were excluded from this graph therefore the column bars do not add up to 100%.

There was a significant association between instrument and referring to responsibility for physical factors ($\chi^2(5)=17.773, p=.007$). Brass teachers were most likely to refer to physical factors, vocal teachers were least likely, and bowed strings teachers were most likely to report teaching physical factors 'correctly' to prevent PRPs: see Figure 5.8.

¹⁰⁹ Percussion teachers were excluded from this analysis as a result of low representation.

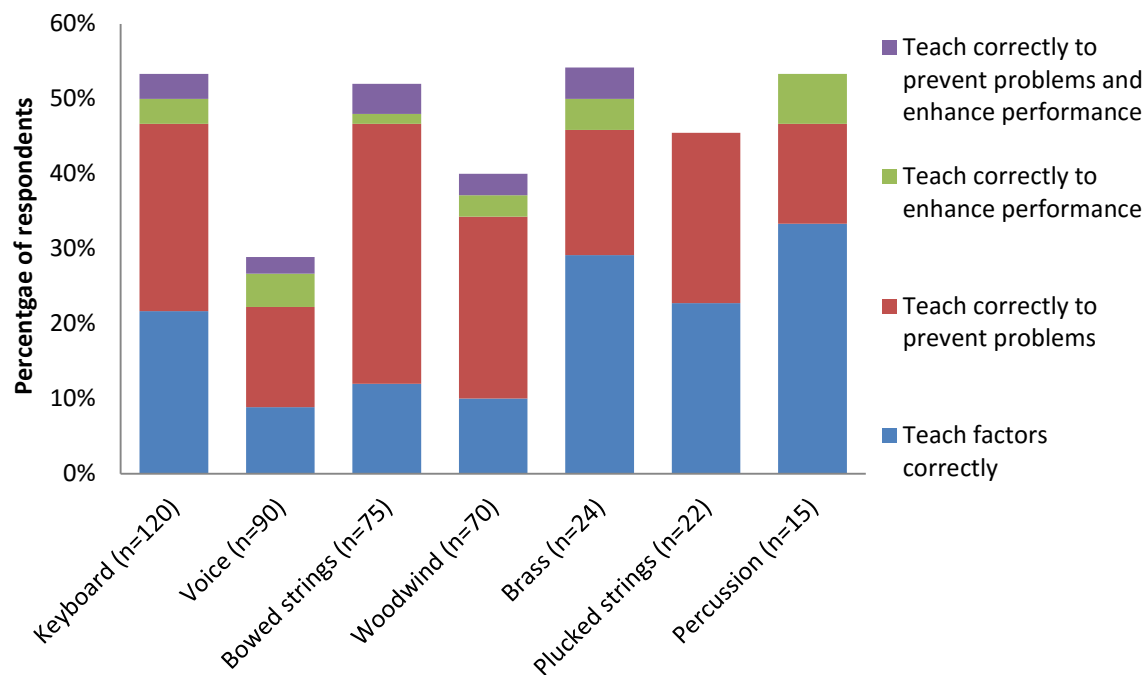


Figure 5.8: Reference to responsibility for physical performance-related health by respondents who taught different instruments. *Note:* The total number of respondents in each group is shown next to the group label. Respondents who did not refer to physical health were excluded from this graph therefore the column bars do not add up to 100%.

There were non-significant differences between teaching instrument and reference to certain psychological performance-related factors (see Figure 5.9). For example, anxiety was referred to most frequently by woodwind and keyboard teachers whereas confidence was most frequently referred to by bowed strings and vocal teachers.

A Kruskal-Wallis test revealed significant differences between the extent to which keyboard, voice, bowed strings and woodwind teachers reported spending time adapting their pupils' instruments and/or environment ($H(3)=12.043, p=.007$). Three Mann-Whitney tests were used to follow up this finding and a Bonferroni correction was applied ($\alpha=.0167$). Bowed strings teachers had the highest ratings (mean=4.05, median=4) and their scores differed significantly from keyboard teachers (mean=3.47, median=4; $U=3211, z=-3.130, p=.002, r=-0.23$), but not from woodwind teachers (mean=3.69, median=4; $U=2163, z=-2.168, n.s.$) or vocal teachers (mean=3.88, median=4; $U=3161, z=-.635, n.s.$). Responses to the open-ended question regarding adapting pupils' instrument and/or environment varied according to instrument (see Figure 5.10). For example, voice and brass teachers were most likely to refer to helping pupils with breathing and percussion teachers contributed most of the hearing-related responses.

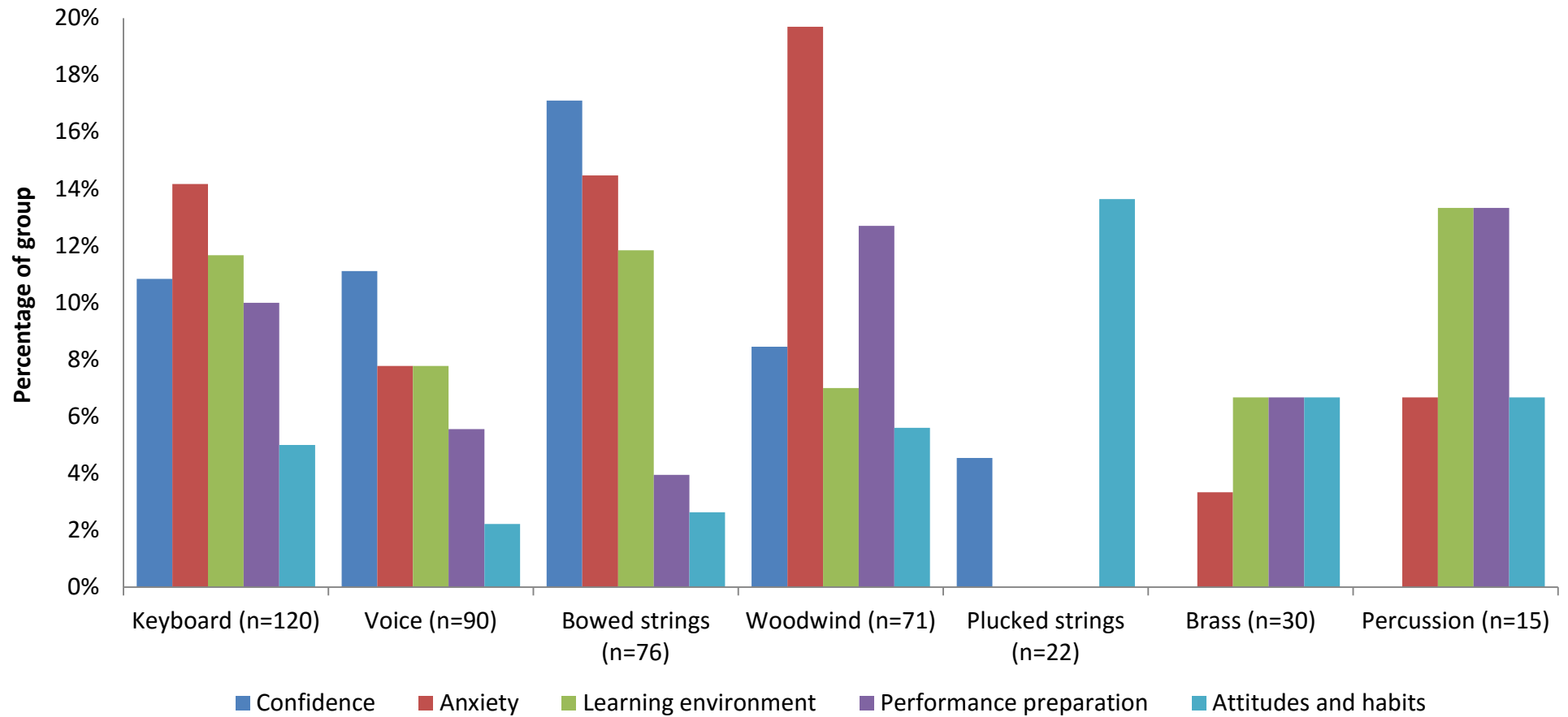


Figure 5.9: Reference to responsibility for psychological performance-related health by respondents who taught different instruments. *Note:* The total number of respondents in each group is shown next to the group label. Within groups responses are not mutually exclusive.

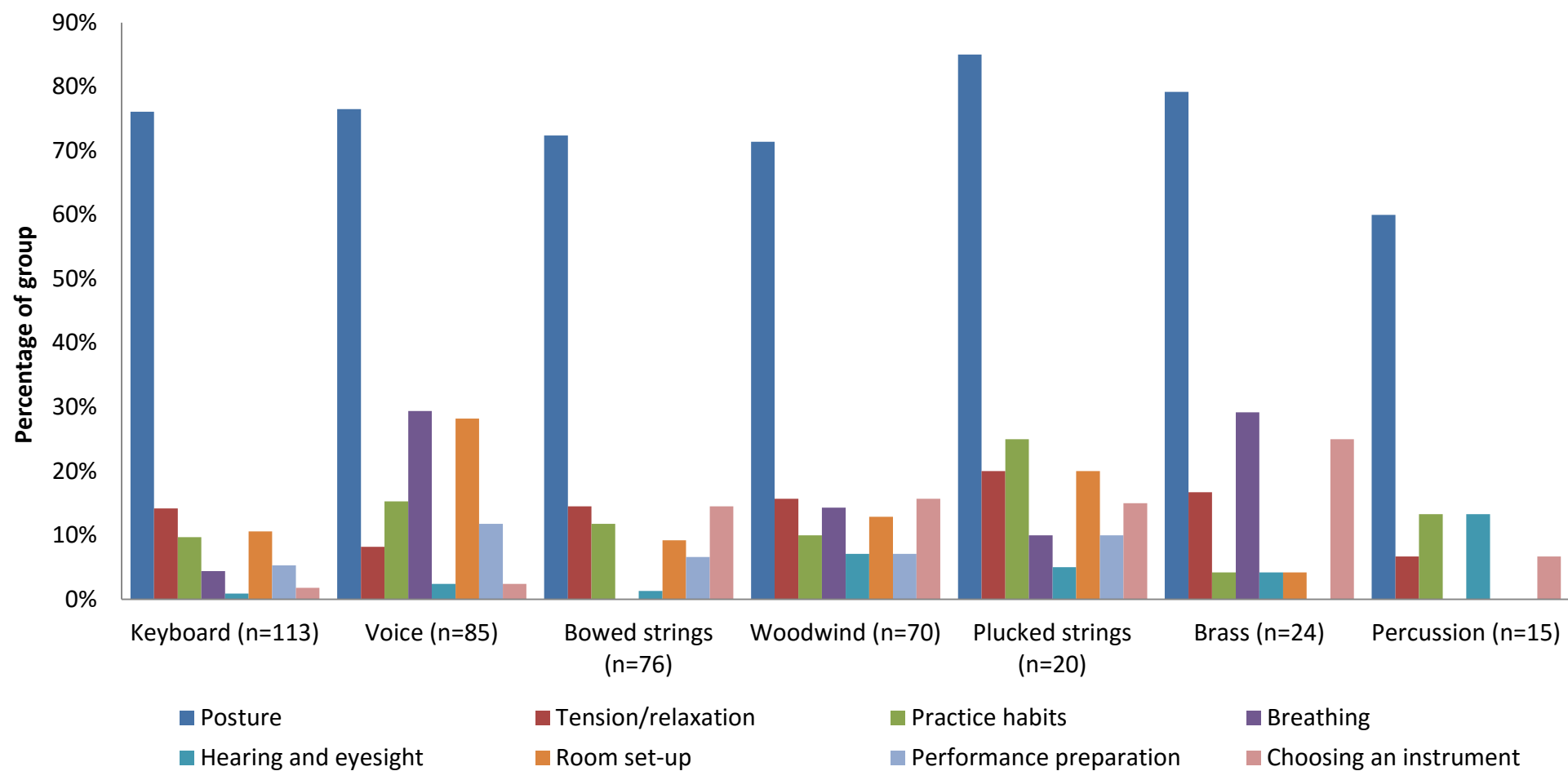


Figure 5.10: Reference to instrumental and/or environmental modifications by respondents who taught different instruments. Note: The total number of respondents in each group is shown next to the group label. Within groups responses are not mutually exclusive.

There were non-significant differences between where respondents who taught different instruments reported accessing health-related information. For example, bowed strings teachers were most likely to have learned from experience, percussion teachers' reported that they had gained knowledge from musicians, relatively few plucked strings teachers had accessed training, and brass and vocal teachers were more likely than others to have learned via reading (see Figure 5.11).

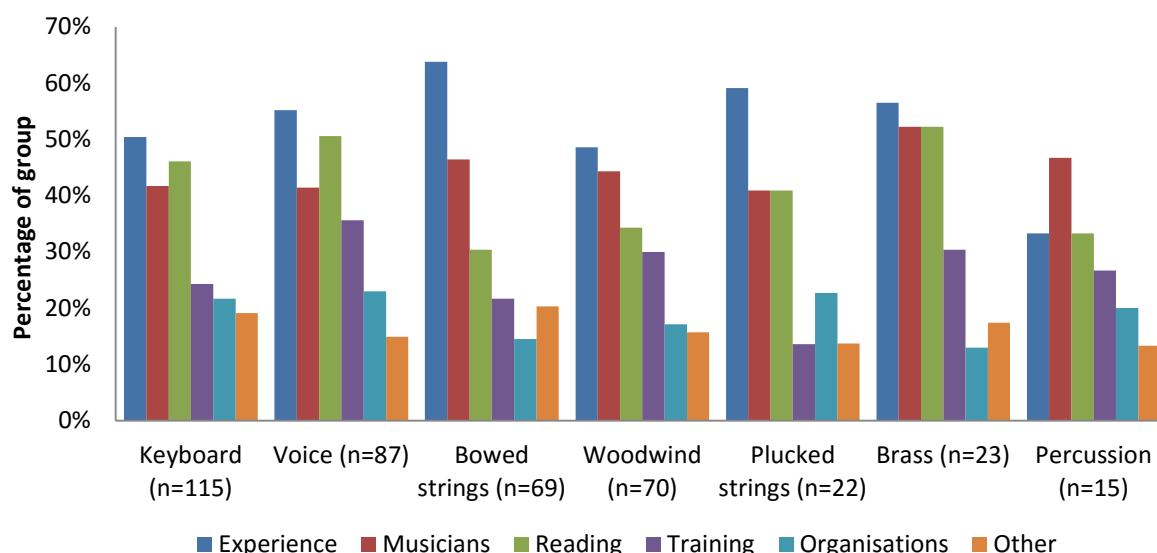


Figure 5.11: Sources of health-related information reported by respondents who taught different instruments. *Note:* The total number of respondents in each group is shown under the group label. Within groups responses are not mutually exclusive.

Over two fifths of vocal teachers (41.4%, 36 of 87) reported owning at least of the books listed in Question 39 whereas the proportion of respondents who taught other instruments ranged from 21.7% (5 of 23) of brass teachers down to 10% (7 of 70) of woodwind teachers.

Pupil age

A Mann-Whitney test revealed that those who taught primary school age pupils rated their perceived responsibility for pupils' health and well-being significantly higher (mean=4.71, median=5) than those who did not (mean=4.41, median=4), $U=15547.5$, $z=-2.126$, $p=.033$, $r=.10$. Respondents who taught primary school age pupils were also more likely to suggest that teachers are responsible for pupils' physical ($\chi^2(1)=8.405$, $p=.004$) and psychological ($\chi^2(1)=6.020$, $p=.014$) performance-related health compared with those who did not. As pupil age increased so did the likelihood that respondents would suggest that teachers are responsible for pupils' general health but the associations between these factors were not significant.

Genre

There was a significant association between the genre(s) that respondents reported participating in and referring to teachers' responsibility for psychological performance-related health ($\chi^2(2)=8.080, p=0.018$). In particular, respondents who only participated in classical activities were 5.83 times more likely to refer to psychological factors than those who only participated in other-than-classical activities (see Figure 5.12).

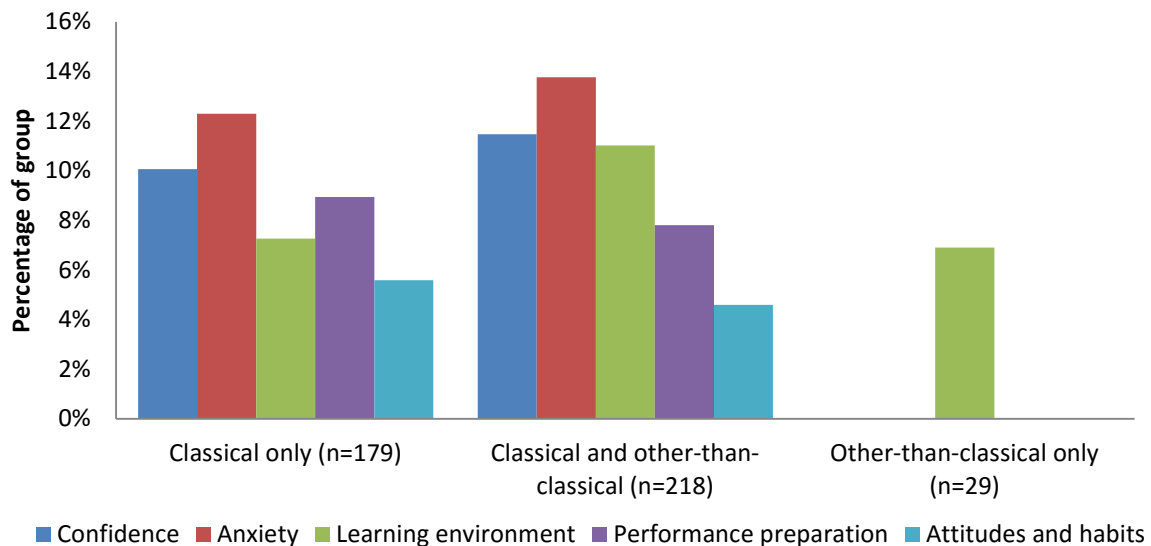


Figure 5.12: Reference to responsibility for psychological performance-related health by respondents involved in different genres. *Note:* The total number of respondents in each group is shown under the group label. Within groups responses are not mutually exclusive.

There was also a significant association between reported genre of activities and likelihood of discussing hearing with pupils ($\chi^2(2)=32.875, p<.001$): only 4.7% ($n=8$ of 171) of classical respondents reported that they discussed hearing whereas 61.1% ($n=11$ of 18) of other-than-classical respondents discussing hearing.

Performing experience

Performing activities were associated with citing training as a source of health-related information ($\chi^2(3)=12.033, p=.007$); respondents who only reported participating in amateur performance were 6.1 times more likely to have learned via training compared with those who did not report participating in any performing activities. Similarly, performing activities were associated with citing other musicians as sources of knowledge ($\chi^2(3)=9.135, p=.028$); respondents who reported participating in both amateur and professional performance were 2.2 times more likely to have learned from other musicians compared with those who did not report participating in any performing activities. See Figure 5.13 for further information.

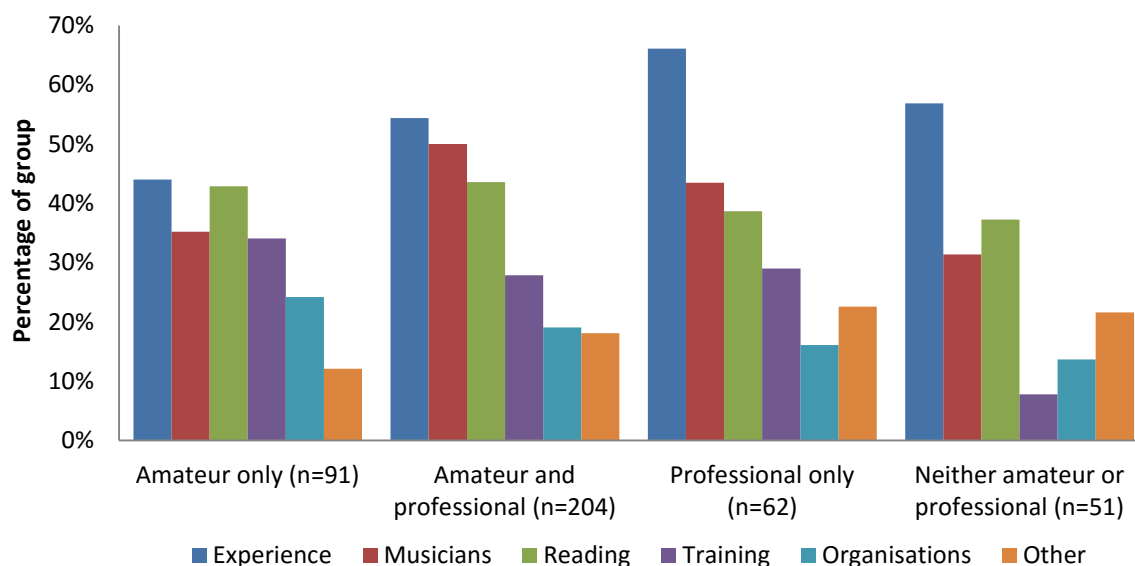


Figure 5.13: Sources of health-related information reported by respondents who took part in different performing activities. *Note:* The total number of respondents in each group is shown under the group label. Within groups responses are not mutually exclusive.

Graduate status

A Mann-Whitney test revealed that respondents who had not graduated from a university rated their perceived responsibility for pupils' health and well-being significantly higher (mean=4.75, median=5) than those who had graduated from a university (mean=4.48, median=5), $U=19820.0$, $z=-2.132$, $p=.033$, $r=.10$. Conversely, the ratings of those who had graduated from a conservatoire (mean=4.79, median=5) were higher than those who had not (mean=4.53, median=5) but not significantly so ($U=19594.5$, $z=-1.608$, *n.s.*).

Performance-related problems

There were five significant associations between respondents' reported experience of PRPs and the likelihood of reporting that they discuss certain health-related topics (associations are shown as dotted lines in Figure 5.14). Respondents who reported a history of physical symptoms were 2.0 times more likely to report discussing physical symptoms with pupils ($\chi^2(1)=8.168$, $p=.004$). Likewise, respondents with a history of MPA were 2.0 times more likely to report discussing anxiety ($\chi^2(1)=11.462$, $p=.001$) and 1.7 times more likely to report discussing performance preparation with pupils ($\chi^2(1)=6.983$, $p=.008$). Finally, respondents who reported a hearing problem were 2.5 times more likely to report discussing hearing ($\chi^2(1)=7.715$, $p=.005$) and also 1.7 times more likely to report discussing anxiety with pupils ($\chi^2(1)=6.448$, $p=.011$).

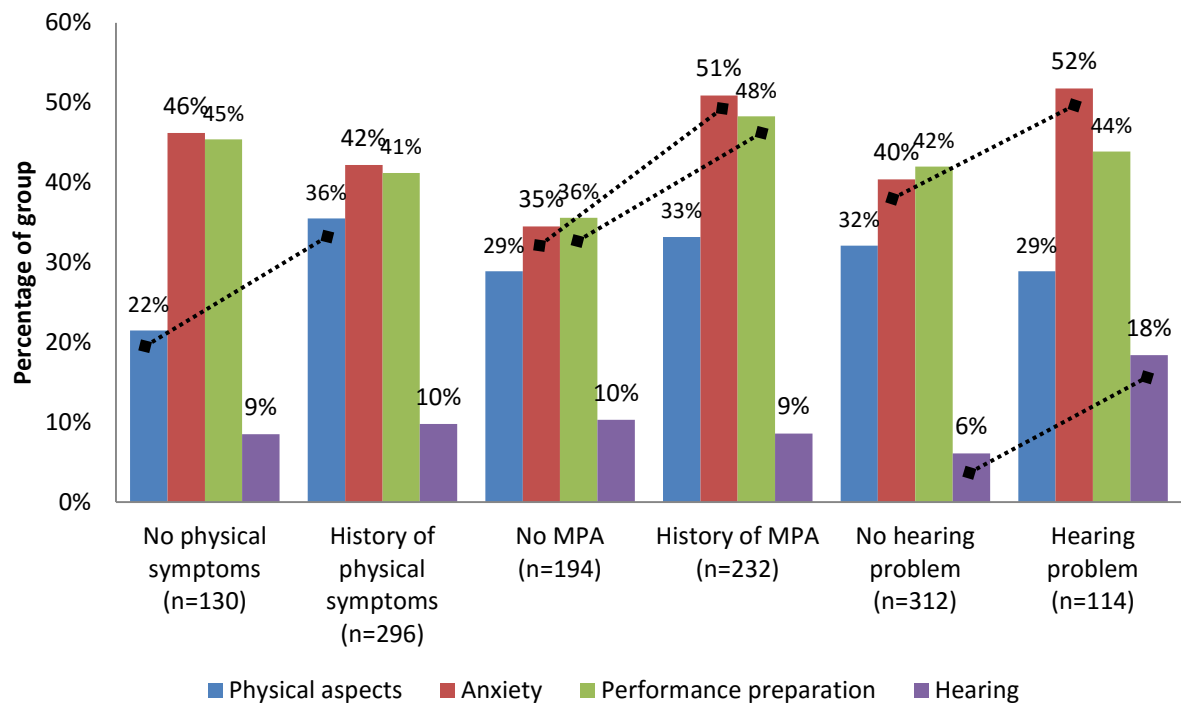


Figure 5.14: Associations between respondents' health and reported discussion of health with pupils. *Note:* The total number of respondents in each group is shown under the group label.

Respondents with a hearing problem were 1.7 times more likely to report that their knowledge of health promotion and PRPs had been gained through experience ($\chi^2(1)=6.425, p=.011$).

Summary of associations (Figure 5.15)

Respondents' answers to questions about health-related beliefs and behaviours (shown as blue rectangles in Figure 5.15) were significantly associated with some of their demographic characteristics, educational pathways, and/or personal experiences of PRPs. As in previous association maps significant chi-square results are shown using solid lines with double-headed arrows (non-significant but potentially interesting associations between advice and/or treatment for PRPs and other factors are shown as light-weight dotted arrows in green or blue). Significant findings of non-parametric tests of difference are shown using heavy dashed lines with double-headed arrows. Perceived responsibility for psychological performance-related health and reported discussion of hearing and MPA with pupils were each significantly associated with three factors. The reported level of responsibility for pupils' health and well-being was significantly different between respondents of different sexes, those who had graduated from different places, and who taught pupils from different age groups. Other responses to health-related questions were associated with one or two factors, as shown in the figure.

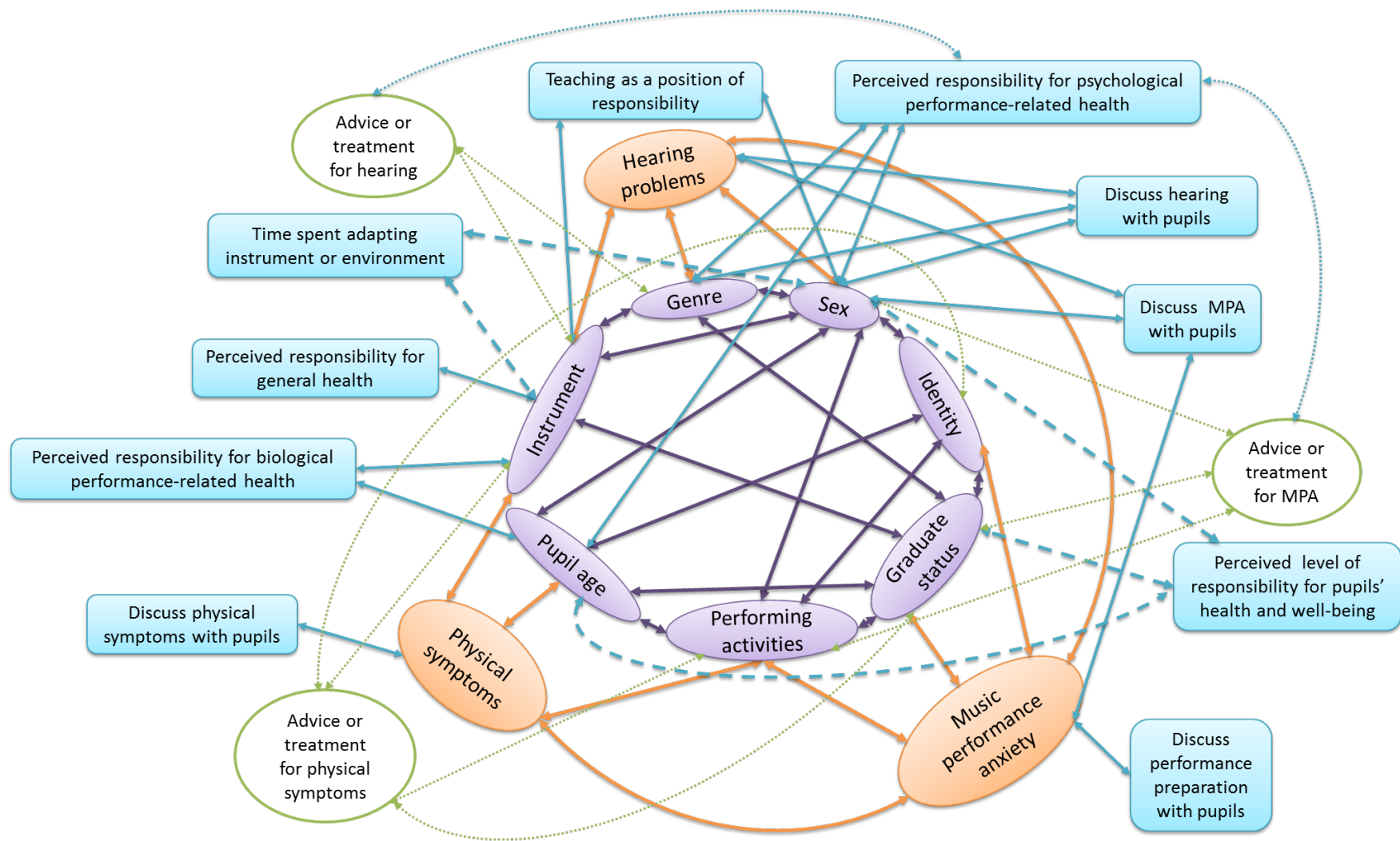


Figure 5.15: Associations between respondents' demographic characteristics, educational pathways, experience of PRPs, and health-related beliefs and behaviours

5.2 Discussion

The third research question sought to explore what influenced the health-promoting behaviours of UK instrumental/vocal teachers who participated in the survey study. Results indicate that their health-related behaviours were influenced by a number of different factors: firstly, the extent to which they consider themselves responsible for pupils' health and well-being and what that entails; secondly, pupils' age and experience, the teaching environment, and their relationship with pupils; and thirdly, their demographic characteristics, educational pathways, and experience of PRPs. Results relating to these influences are discussed in relation to relevant literature.

5.2.1 Beliefs about teaching as a position of responsibility

The teachers who participated in this research reported engaging in a range of health-promoting behaviours at the time of the study (see Chapter 4). These behaviours appear to be underpinned by a fundamental belief that teachers have a responsibility to safeguard, and preferably enhance, their pupils' health and well-being. Only six respondents reported a difficulty with the word 'responsibility' therefore it can be inferred that this is a useful word for exploring the concept of caring for pupils' health and well-being. A recent American study by Laursen and Chesky (2014) also used the word 'responsibility' to explore pre-service music educators' beliefs about responsibility for informing and educating future pupils about health and safety issues and preventing pupils from developing PRPs. Similarly to the current study, Laursen and Chesky's findings demonstrate that musicians who have committed to teaching already exhibit a high perception of their inherent responsibility for pupils' well-being, although that perception was heightened further after participation in an intervention course.

Respondents referred to one-to-one lessons as a unique and privileged environment in which teachers have a duty of care to their pupils. Issues relating to duty of care have previously been raised in relation to music teaching (Gaunt, 2011; UpJohn, 2014); results of the current study suggest that many teachers consider this part of their role. A small group of respondents referred to themselves as role models, echoing previous suggestions that teachers can provide a good example of health-conscious behaviours (see Section 2.4.2). Respondents suggested that teachers can influence pupils' health and well-being positively or negatively; this ranged from actively enhancing pupils' performance and well-being through to physically or psychologically harming pupils as a result of direction actions or inaction. Most respondents' health-promoting behaviours

appeared to be motivated primarily by a desire to safeguard pupils and prevent them from developing PRPs; in comparison, relatively few respondents referred to enhancing pupils' performance and/or health. This may be because the concept of enhancing performance and focusing on positive psychology for musicians is relatively new to the discipline. Interviewees also considered teachers to be in a position to help pupils, viewed being a health promotion advocate as a reasonable and appropriate role for teachers, and believed that teachers would want to engage in health promotion (see Section 4.2.3).

5.2.2 Pupil-related factors and teaching environment

Pupils' age and ability appeared to influence the extent to which respondents considered teachers to be responsible for health, their choice of health-promoting behaviours, and who else they would involve in caring for pupils. Respondents who taught primary school pupils considered teachers to be more responsible for pupils' health and were more likely to suggest that teachers are responsible for physical and psychological performance-related health compared with those who did not. Conversely, respondents who were teaching older pupils were more likely to refer to general health factors possibly because as pupils get older their lifestyle choices are more likely to affect their performance, or because when they are younger their lifestyle is more likely to be controlled by their parents. This suggestion is supported by respondents who stated that responsibility for pupils' well-being is shared between the teacher and pupil, or between the teacher and pupil's family if the pupil is a child (see Section 4.1.4). These results suggest that teachers of beginner pupils were more regularly considering and acting to enhance their pupils' performance-related health than teachers of more advanced pupils. Previous research investigating instrumental/vocal teachers' health-related behaviours has tended to involve teachers in one particular environment rather than across pupil age groups and environments (see Section 2.1.5). By involving a wider spectrum of respondents in the current study it was possible to begin to investigate different beliefs and behaviours that manifest with certain pupil groups. An associated difficulty with this approach was that respondents generally taught more than one age group therefore results are likely to be confounded by respondents' comments being counted in association with more than one pupil age group. Research by Mills and Smith (2003) reported that instrumental/vocal teachers identified different hallmarks of effective teaching for school-age and tertiary-level pupils. These results suggest that future research and initiatives must bear in mind

that one approach is unlikely to be suitable for all environments and further research is needed to investigate similarities and differences across different teaching environments.

Respondents referred to the transfer of responsibility from teacher to pupil, with the majority suggesting that teachers are more responsible for younger or beginner pupils as pupils should take on more responsibility for themselves as they get older or more advanced. This result contrasts with the findings reported in Section 3.2.2 relating to minimum pedagogical requirements in which quite a few respondents suggested that teachers' competencies or qualifications should be higher for more advanced pupils. PAM specialists state that health promotion should be included from the very first lessons because early experiences establish habits that either help or hinder musicians later in their lives (Blackie et al., 1999; Chesky et al., 2006; Rosset i Llobet, 2004; Spahn, 2011; Voelcker-Rehage, 2012). Beginner pupils' beliefs and behaviours are likely to be influenced by teachers and pupils need to be taught how to care for their performance-related health; therefore those who teach beginners must be capable of coping with that level of trust and teaching their pupils appropriate techniques. This concept was discussed in the interview study and results relating to these findings are presented in Norton et al. (2015).¹¹⁰ Interviewees identified a spectrum of influence ranging from not intentionally harming pupils or allowing them to harm themselves, on to setting them up to succeed, and finally teaching them to take responsibility for their own health.

Respondents suggested that teachers are in a position to notice that a pupil is having difficulties or, as a result of a trusting teacher-pupil relationship, to be confided in by pupils. These findings support previous literature that suggested teachers may notice or be told about signs and symptoms associated with PRPs (Brandfonbrener & Lederman, 2002; Horvath, 2008; Wristen, 2013). In some cases, the extent to which respondents considered themselves responsible for pupils' well-being depended on the quality of the relationship between themselves and pupils. This related to the amount of time the teacher had been teaching a pupil, the length and frequency of lessons, and the pupils' willingness to practise, divulge relevant information and ask for help. Some respondents suggested that teachers can only be considered responsible when they are with pupils and others reported that responsibility is limited to what is being taught; respondents were not always clear who responsibility passed to outside these bounds. Stakeholders involved in occupational health for conservatoire musicians raised similar concerns

¹¹⁰ A copy of the material from this paper can be found in Appendix H.

regarding limited contact hours, part-time teaching contracts, competition for time in lessons, an over-abundance of paperwork and difficulties relating to communication between teachers and the institution (Atkins, 2013). The complicated interactions between teacher-, pupil-, and environment-related factors made it difficult for respondents to state exactly what they would do if a pupil developed a problem; future research must bear in mind that these factors are likely to vary between teachers, and also within teachers' practices.

5.2.3 Teacher-related factors

Demographic characteristics

In some cases respondents' demographic characteristics were associated with their responses to Questions 29-42 suggesting that these characteristics may influence their health-promoting beliefs and resulting behaviours. It is not possible in a cross-sectional study to state with any conviction that factors are directly related but this study has identified factors and associations that should be investigated further. Respondents' sex was associated with the extent to which they consider themselves responsible, what that responsibility relates to, the extent to which respondents reported spending time adapting the instrument/environment, and what they reported discussing with their pupils. It is possible that being born male or female influenced teachers' health-promoting beliefs and behaviours. Previous research has suggested that female teachers are more likely to draw support from social networks (Fjellman-Wiklund et al., 2003) which may be associated with them providing social support via discussion of psychological health-related factors. However, all of the health-related responses that were associated with sex were also associated with other characteristics (e.g. instrument, genre, degree courses, pupil age groups and experience of MPA or hearing problems) each of which was in turn associated with respondents' sex. Furthermore, female respondents were more likely to report that their health-related knowledge had been gained via training. It is not clear whether female respondents chose to undergo training because they believe themselves to be responsible or whether they chose to undergo training and as a result were more likely to engage in health-promoting behaviours. These confounding variables need to be investigated to assess the extent to which respondents' health-promoting behaviours are influenced by nature or nurture.

Perceived responsibility for general and physical performance-related health were associated with the instrument that respondents taught which suggests that there may

be inherent characteristics in different learning environments that affect respondents' health-promoting behaviours. This is likely to be related to differences in the physicality of various instruments, especially in relation to the voice. Vocal teachers' comments referred primarily to the fact that a singer's body is their instrument therefore caring for general health positively affects performance; this may explain why vocal teachers were more outspoken regarding the need to advise pupils on their general health in addition to their performance-related health. In comparison, a much greater proportion of other instrumentalists focused solely on performance-related health. Two of the only previous studies to investigate teachers' perception of their responsibility for pupils' health were conducted with vocal teachers (Latukeyu & Verenikina, 2011; Scherer et al., 1994) and results indicated that teachers did report feeling responsible. There were also differences between respondents who taught different instruments in terms of referring either to anxiety (more common among woodwind and keyboard teachers) or confidence (more common among bowed strings and vocal teachers) when discussing responsibility for psychological performance-related health. Given that many teachers are influenced by their own learning experiences it may be that certain strategies or approaches are more prevalent among certain instrumental traditions of practice. Future research should recruit equal numbers of different instrument groups to explore instrumental differences using statistical tests. It would also be of interest to discuss health-promotion with musicians who teach different instruments to investigate whether their strategies vary with the instrument that they are teaching.

Educational pathways and qualifications

Results of the current study indicate that teachers' knowledge and awareness of health-related topics is predominantly gained via experience and from interaction with other musicians (colleagues, friends and family). In particular, a greater proportion of younger respondents and those who had participated in performing activities reported that their health-related knowledge had come from other musicians. In comparison, citing experience as a source of knowledge was more common among older and/or more experienced teachers; it is not possible to tell from this cross-sectional study whether older teachers referred to drawing knowledge from experience because they were more experienced, or whether the culture has changed and younger teachers now have access to more resources. Research is needed to investigate exactly where and when

respondents gain health-related knowledge, what they deem to be 'experience' and what kind of information is passed from musician to musician.

Instrumental/vocal teachers were the third most popular source of health-related information, after experience and other musicians. Research with American teachers indicated that respondents had primarily gained awareness from colleagues and teachers (Redmond & Tiernan, 2001). Given the emphasis that has been attributed to teachers' roles as health promotion advocates (see Section 2.1.5) it is perhaps surprising that teachers were not identified as the primary source of health-related information. However, respondents reported that they had facilitated pupils' access to information from other individuals or resources therefore it is likely that respondents' teachers facilitated respondents' access to other sources of information by recommending reading material or referring to others. A teacher in the current study suggested that it is important to engage pupils in discussion about PRPs from the outset so that they fully understand the strategies that are being used to help them, and will be able to deal with similar situations in the future if they become a teacher. Further research should investigate in detail how health-related beliefs and behaviours are passed on from musician to musician. Jorgensen (2008) stated that if musicians subscribe to a tradition of practice then they must also commit to a central role in transforming the traditions that are passed to the next generation. Previous research suggested that whilst music teachers are affected by their own learning experiences (Baker, 2006) they may not gain the teaching skills that they need (Parkes & Daniel, 2013; Persson, 1996), or be able to transfer skills to other contexts (Mills, 2002). Pupils rarely participate in the process of selecting goals, making preparations, or analysing their progress therefore they are generally unaware of the teaching behaviours that they witness (Borg, 2004). It is possible that teachers are indirectly responsible for more of the health advice that respondents had received than they recollected. Further research should investigate the extent to which teachers facilitate access to health information alongside giving direct advice and recommendations.

Overall, respondents cited reading as the third most common source of health-related information, a finding that echoes previous research by Redmond and Tiernan (2001). The internet has become a valuable resource in many ways, allowing instant access to a plethora of resources; however, very few respondents reported that their health-related knowledge was gained directly from reading online resources and less than

a third of respondents gave details of websites that they had used to access health-related information. Those who did use internet resources reported using search engines, picking up referrals from other online users, or following links from social media sites; once again, respondents' access to health-related information was influenced by other musicians. A greater proportion of respondents reported that their health-related knowledge was gained from reading hard-copy resources but nearly half of them had not heard of any of the books presented in the survey and less than a fifth owned one. Awareness of books was higher among vocal teachers compared with other instrumentalists and the most popular book was *Singing and teaching singing* by Chapman (2011). Similarly, reporting that health-related knowledge had been gained from books was most common amongst brass and vocal teachers; it was not clear whether these teachers were representative of their colleagues, whether there are more books available for vocal and brass teachers, or whether there is a stronger culture of reading among those instrument families. To date, PAM research has been dominated by HCPs and in many cases is not accessible to music educators; many resources use 'jargon' and articles are most commonly published in peer-reviewed journals, which less than a tenth of respondents in this research reported reading. Some resources have been written to address this lack of connection between theory and practice but previous researchers have not explored the extent to which teachers are aware of these resources or whether they refer to them. The resources that teachers read may influence their health-related behaviours; future research should investigate why teachers choose to read books, what kind of information they find useful, how reading books fits in with their lifestyles, and what they value about books as a source of information.

Almost all respondents reported awareness of at least one of overarching UK music organisations and one that supports the health of musicians. A smaller proportion of respondents were aware of organisations that focus on music education; it may be that these organisations are perceived as more relevant for teachers working in schools. Respondents also reported awareness of instrument- and discipline-specific societies, in particular many reported awareness of organisations for voice users; this may have contributed to the greater proportion of vocal teachers who had gained knowledge of PRPs from reading materials. In addition to being aware of these organisations a few respondents had personally sought advice from a BAPAM clinician and/or referred pupils to a BAPAM clinic; furthermore, some reported that they would refer pupils to the MU or

ISM. A resource for dance teachers published by Dance UK (Gibson & Bramley, 2002) suggests that joining relevant organisations and subscribing to publications is a good way of accessing professional development opportunities. Similarly, Hallam and Gaunt (2012) suggest that music teachers can access CPD from various organisations to build skills, enhance professional credibility and facilitate networking. The results of the current study indicate that teachers are aware of the many organisations that cater to musicians in the UK and in some cases are actively using the services that they offer.

Despite being aware of relevant organisations the majority of respondents reported that they do not subscribe to or read publications that are associated with such organisations, and very few reported that their health-related knowledge had been gained through contact with an organisation. Organisations should be involved in the design, implementation and maintenance of health promotion programmes to draw on their resources, engage them in the process, and facilitate distribution of information through existing, but currently under-utilised, networks. This strategy may not be wholly successful but by working with organisations the current situation could be improved. Very few respondents reported reading peer-reviewed publications and none read journals that are specifically related to health. The peer-reviewed publications and health-related journals that are currently available still cater predominantly to HCPs, although they are becoming increasingly accessible to a wider audience. Westerlund and Väkevä (2011) propose that theory is considered to be irrelevant to good practice among those engaged in teaching their disciplines; they suggest that many musicians believe that knowing how to sing or play an instrument is more important than theoretical knowledge. It would be valuable to explore whether UK teachers are interested in learning about health promotion, and if so what they are interested in and how they would like to learn.

Most of the teachers in this study had graduated from at least one tertiary-level educational institution but very few respondents, particularly those who attended universities, reported that their health-related knowledge had been gained during their degree(s). As identified in Chapter 3, there were roughly equal numbers of conservatoire and university degrees overall but respondents were more likely to have gained a bachelor's degree from a university and a postgraduate degree from a conservatoire. Health promotion and music pedagogy initiatives are currently focusing on musicians attending conservatoires and those who involved in professional performing activities: for

example, Musical Impact, the Henley Recommendations (2011) and the Association of Medical Advisers to British Orchestras (AMABO, see www.bapam.org.uk/amabo for details). A large proportion of instrumental/vocal teachers attend tertiary level institutions where their beliefs and behaviours are influenced by the education and support that are available during their degree(s). At present, that does not consistently include health promotion, especially for those who attend a university. The results of this study suggest that health promotion initiatives should focus on engaging with university musicians during their bachelor's degree; this would provide a platform for discussing health promotion in the context of instrumental/vocal teaching with musicians who are likely to teach at some point during their career. This is not to suggest that the good work that is being done with conservatoire and professional performing musicians should cease, more that such strategies could be employed effectively in universities.

The source of respondents' health-related knowledge (e.g. experience, musicians, reading, training, and organisations) was associated with their teaching instrument, performing activities and sex. Teaching instrument and sex were both directly associated with responses to health-related questions. Whilst respondents' performing activities were not directly associated with responses to health-related questions they may influence where respondents access health-related information and therefore their health-promoting behaviours. It is not clear whether certain respondents had engaged with relevant training which influenced their health-promoting behaviours or whether their existing interest in health promotion (influenced by a variety of other factors) encouraged them to seek relevant training. A few respondents commented that teachers may need more information about health promotion to equip them to deal with situations relating to pupils' general and performance-related health; these comments suggest that teachers should take action to ensure that they are professionally equipped to deal with problems that may arise and to make appropriate decisions when necessary.

Performance-related problems

The majority of teachers in this study had experienced a PRPs. Nearly a tenth explicitly stated that their health-related knowledge had been gained as a result of personal experience with a PRP and a further two-fifths suggested that their knowledge had come from 'experience', but did not explain what type of experience. In particular, teachers who reported a hearing problem (predominantly male, percussion teachers engaged in other-than-classical activities) were more likely to report that they discuss hearing

protection with their pupils. Instrumentalists who play 'loud' instruments may be more likely to receive training about how to avoid hearing problems; however, being 'in the firing line' of loud and unexpected sounds is a risk factor for hearing damage, and musicians who are in such positions may be less likely to learn how to avoid problems. Furthermore, discussing physical symptoms, hearing, MPA and performance preparation with pupils were significantly associated with reporting the associated PRPs. When recounting what they discuss with pupils respondents reported sharing personal experiences with pupils, using their experience to help them identify problems, or passing on management strategies that were effective for them; these behaviours were particularly prevalent in relation to discussing MPA and hearing with pupils. Other research with instrumental/vocal teachers also indicated that those with personal experience of PRPs were more aware of health-related information and reported that their knowledge had been gained through their own, colleagues' or pupils' experiences (Barrowcliffe, 1999; Rogers, 1999). Zaza (1993) stated that musicians affected by PRPs represent potentially powerful advocates of prevention as they are motivated to research their own condition and share that information with others; previous research also indicates that engagement with health promotion is more likely to be rehabilitative rather than preventative (Davies & Mangion, 2002). The results of this research support Zaza's assertion and emphasise the importance of addressing teachers' personal health.

Respondents' health-promoting behaviours often reflected the behaviours they had undertaken to deal with personal health problems. In many cases respondents had received advice for personal PRPs from doctors, physiotherapists or osteopaths, and body awareness specialists (see Section 3.2.4) and reported gaining health-related knowledge from these sources; they were also most likely to refer pupils to those professionals. Respondents also reported that they encourage pupils to do a range of breathing, postural, warm-up and cool-down exercises but this research did not investigate specifically what those exercises are or where respondents learned about them. Some researchers have reported, and in some cases warned against, the phenomenon of musicians passing treatment advice between themselves (Brandfonbrener, 2003; Guptill & Zaza, 2010; Surow & Lovetri, 2000). Teachers may be inappropriately passing on advice that was personalised for their age, body, and condition. Further research is needed to investigate the particular strategies that are used by instrumental/vocal teachers, the origin of those exercises, and whether they are appropriate for pupils.

Edmondson and Mogelof (2006) suggested that creating an environment that is conducive to learning may be difficult for teachers who have not experienced such an environment first-hand. The extent to which respondents modelled their teaching style on the environment they had experienced whilst learning was not clear from the current research. Two respondents commented that their lack of experience with a PRP made it more difficult for them to help pupils. Previous studies have indicated that while teachers are influenced by their learning experiences they are not 'carbon copies' of their teacher(s) because they develop their own strategies and in some cases choose to teach differently (Baker, 2006; Mills & Smith, 2003; Purser, 2005). Research carried out as part of the researcher's master's project (Norton, 2012) suggests that respondents' priorities as teachers differ from what they remember as their teachers' priorities. 'Musical' elements (i.e. repertoire, technique and expression) were rated highest as both learning and teaching priorities, but lifestyle and practice habits (i.e. body awareness, interaction with instrument, sitting/standing correctly, mental rehearsal, effective practice) were rated above technical elements (i.e. scales, arpeggios, technical exercises, and studies) as teaching priorities where technical elements had been rated higher as learning priorities. Respondents reported that they had discussed healthy habits most commonly with their teacher and do so now with their pupils. However, they were more likely to discuss with their pupils topics relating to MPA, where and when to seek help, and PRMDs whereas they remembered their teachers being more likely to discuss PRMDs and vocal problems followed by MPA and seeking help. Future research should investigate whether teachers are able to construct positive learning environments if they did not experience them during their own musical education. If teachers do find it difficult to identify with pupils who develop a PRP that they have not experienced, construct learning environments that they did not encounter, or teach techniques that they did not learn then there is a strong argument for increasing the amount of pedagogical training and education that is made available to teachers throughout their careers.

5.2.4 Summary of chapter

In this chapter I explored what influenced survey respondents' health-related behaviours and beliefs about health promotion for musicians. In the next chapter I will address the final research question by presenting results relating to survey respondents' reported interest in learning about health promotion and the results of two intervention studies that facilitated access to health-related information.

Chapter 6: RQ4 Methods, Results, and Discussion

This chapter addresses the fourth research question:

To what extent would teachers like to access health-related information so as to promote their own and their pupils' health more effectively? What would they like to learn and how?

Information presented in this chapter relates to the survey study and two intervention studies: relevant survey results are presented in Section 6.1, the methods and key results from the book evaluation and CPD event studies are presented in Section 6.2, and all results are discussed in Section 6.3 in relation to previous literature.

6.1 Survey study results

6.1.1 Interest in learning more about health education and support

Respondents rated the extent to which they were interested in learning about health education and support for their own benefit, and for the benefit of their pupil(s): see Figure 6.1.

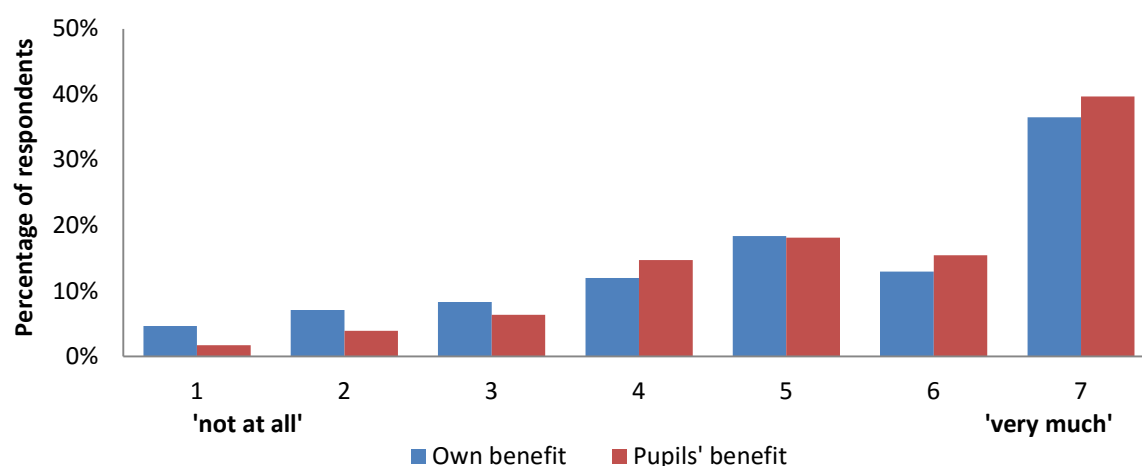


Figure 6.1: Respondents' interest in learning more about health promotion ($N=408$). The Likert scale ranged from 1 'not at all' to 7 'very much'. The mean ranking for their pupils' benefit mean=5.49, SD=1.59, median=6, mode=7) was higher than for their own benefit (mean=5.17, SD=1.85, median=5, mode=7).

Most respondents were moderately to very interested (ratings 3-7) in learning more for their own benefit (88%) and for the benefit of their pupils (94%). Differences were found between sub-populations (i.e. sex, pupil age group, hearing problems, and physical symptoms) in the extent to which they were interested in learning more about health promotion (see Table 6.1).

Table 6.1: Significant differences between groups' interest in learning more about health promotion (sex, pupil age, hearing problem, and physical symptoms)

Grouping variable	Whose benefit	Mann-Whitney test result	Explanation
Sex	Own benefit	$U=15154.0, z=-2.084, p=.037, r=-.15$	Females' average interest ratings for their own benefit (mean=5.27, median=6) were higher than males' (mean=4.91, median=5).
Pupil age group	Pupil benefit	$U=17592.5, z=-2.184, p=.029, r=-.10$	The average interest ratings for pupils' benefit from respondents who taught young adults (mean=5.63, median=6) were higher than from those who did not teach young adults (mean=5.28, median=5).
Hearing problem	Pupil benefit	$U=16147.5, z=-1.994, p=.046, r=-.09$	The average interest ratings for pupils' benefit from respondents who reported a hearing problem (mean=5.77, median=6) were higher than from those who did not report a hearing problem (mean=5.35, median=6).
A history of physical symptoms	Own benefit	$U=14492.0, z=-2.933, p=.003, r=-.15$	The average interest ratings for their own benefit from respondents who had a history of physical symptoms (mean=5.36, median=6) were higher than from those who did not have a history of physical symptoms (mean=4.76, median=5).
A history of physical symptoms	Pupil benefit	$U=15004.0, z=-2.472, p=.013, r=-.12$	The average interest ratings for pupils' benefit from respondents who had a history of physical symptoms (mean=5.61, median=6) were higher than from those who did not have a history of physical symptoms (mean=5.20, median=5).

Participants who only participated in other-than-classical activities reported the highest average interest ratings regarding learning about health promotion for their pupils' benefit (mean=6.0, median=6), followed by those who participated in classical *and* other-than-classical activities (mean=5.65, median=6). Ratings were lowest among those who only participated in classical activities (mean=5.22, median=5). There were 32 respondents in the other-than-classical group compared with 212 in the classical group and 251 in the classical and other-than-classical group making three-way statistical comparisons problematic. However, a Mann-Whitney test revealed significant differences between the two larger groups regarding interest in learning for their pupils' benefit ($U=15212.0$, $z=-2.686$, $p=.007$, $r=-.14$). Average ratings in terms of learning for their own benefit were also lowest among the classical only group (mean=4.85, median=5) and their scores differed significantly from respondents who participated in classical and other-than-classical activities (mean=5.39, median=6; $U=15169.5$, $z=-2.705$, $p=.007$, $r=-.09$).

Vocal and woodwind teachers were most interested in learning more followed by bowed strings teachers and keyboard teachers (see Figure 6.2). A Kruskal-Wallis test identified significant differences between ratings from these groups regarding their interest in learning for their own benefit ($H(3)=9.879$, $p=.020$) but not for their pupils' benefit ($H(3)=7.453$, *n.s.*). The post-hoc Mann-Whitney tests were not significant once a Bonferroni correction was applied.

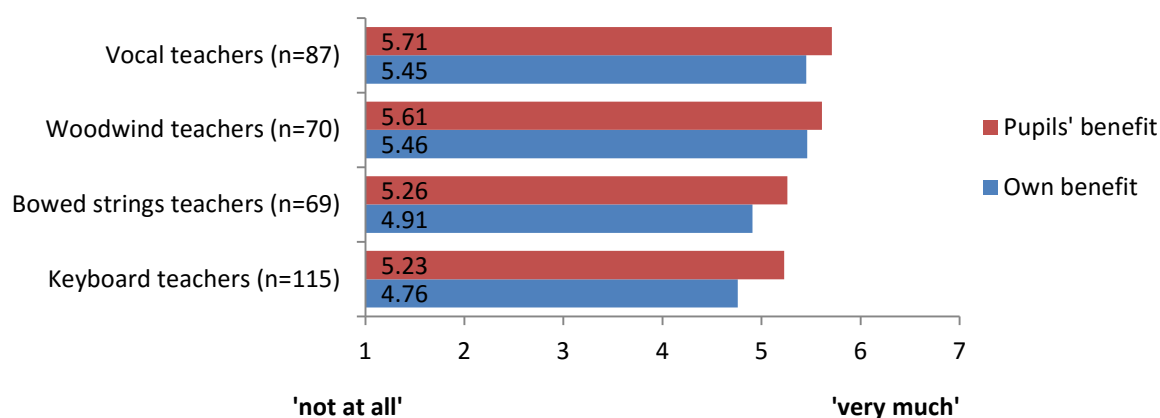


Figure 6.2: Vocal, woodwind, bowed strings and keyboard teachers' mean rated interest in learning more about health promotion. *Note:* The total number of respondents in each group is shown next to the group label.

6.1.2 Preferred timing of learning

By choosing from a list of multiple-choice options respondents indicated at which point(s) during a musician's development they would consider it appropriate and effective to learn about health promotion: see Figure 6.3. Responses from teachers who chose all

three of the options ‘novice musician’, ‘intermediate musician’, and ‘advanced musician’ were recoded as ‘throughout development’ and recorded alongside those who had chosen this option originally. Nearly three-quarters of respondents (72.5%, $n=296$) suggested that health-related information should be available throughout musical development: i.e. as a novice, intermediate, and advanced musician.

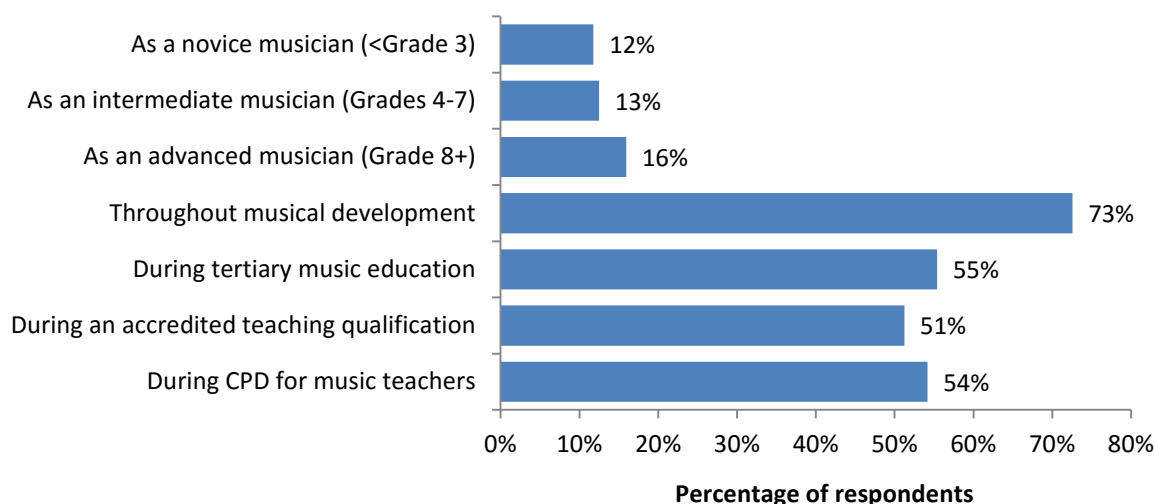


Figure 6.3: Preferred timing of access to health-related information ($N=408$). *Note:* Responses are not mutually exclusive.

Thirteen respondents (3.2%) reported that they did not believe formalising health education is necessary. Another 13 gave ‘other’ responses that included suggesting that their response would depend on pupils’ aspirations, age, and circumstances, or alternatively that health promotion should be included from the first lesson on the first day (R417), or only when issues arise so that pupils are not “overburdened with too many fears and facts about disasters that may never happen” (R241).

Suggesting that health information should be included in teachers’ CPD was 1.85 times more common amongst those who reported a history of physical symptoms ($\chi^2(1)=8.090$, $p=.004$) and 1.6 times more common amongst those who reported a history of MPA ($\chi^2(1)=5.564$, $p=.018$). Respondents who reported a hearing problem were 1.65 times more likely to advocate including information in tertiary education than those who did not ($\chi^2(1)=5.794$, $p=.016$).

6.1.3 Preferred learning methods

Respondents indicated how they would like to learn more about health promotion by choosing from a list of options (multiple-choice) or using an open-ended text box (‘Other method’): see Figure 6.4. The option ‘I am not interested’ appeared first so that those

who were not interested did not select another option.¹¹¹ The four most commonly chosen learning methods were the internet (73%, $n=299$), books (63%, $n=256$), a one-off lecture (61%, $n=247$), and peer-reviewed articles (52%, $n=212$).

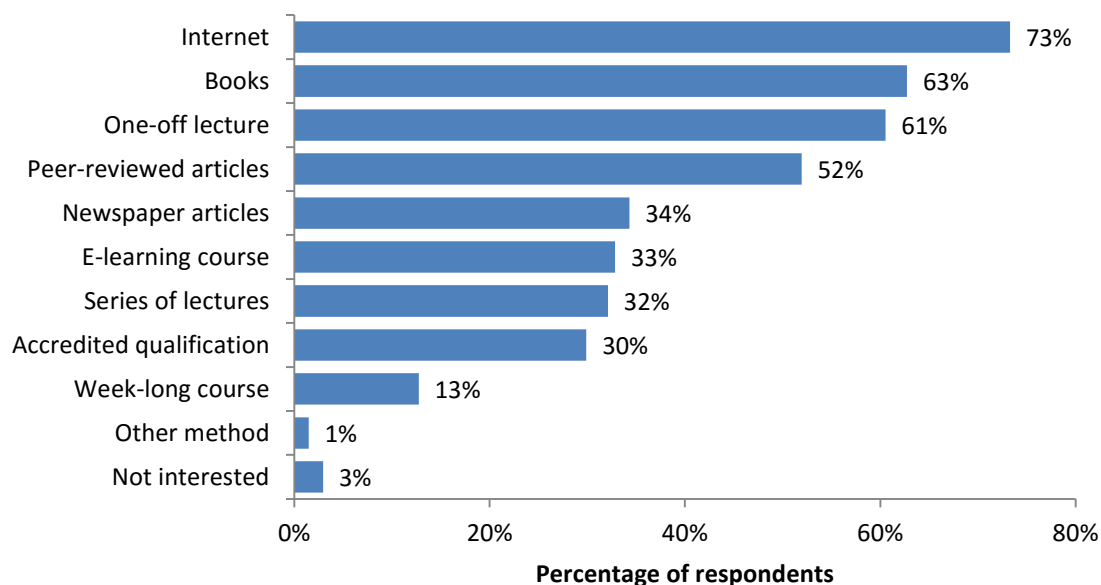


Figure 6.4: Preferred methods of accessing health-related information ($N=408$). *Note:* Responses are not mutually exclusive.

Other learning methods included reading publications, having lessons, seeing a TED talk, and sharing good practice with others. One respondent stated that it needs the passion of a speaker to adequately convey information and another suggested that they would not be receptive to anything that was not free. Only 3% of respondents ($n=23$) were not interested in learning about health education and support for musicians.

6.1.4 Topics of interest to respondents

Respondents were asked to indicate whether there were certain health-related topics that they were particularly interested in learning about. Only 276 respondents¹¹² responded most of whom (55%, $n=152$) reported that they were not interested in a particular topic, were not interested at the time, or did not believe this was applicable to them. Four of these respondents were retired or retiring and stated that earlier in their career they would have been interested in learning more. The remaining 124 respondents suggested which topics they would be interested in; an overview is shown in Figure 6.5.

¹¹¹ After the option 'I am not interested' the other response options were presented in the order shown in Appendix B, Question 44; i.e. options were not randomised for this question.

¹¹² This was the last question on the survey therefore it is likely that the remainder dropped out at this point if they decided they would rather not answer.

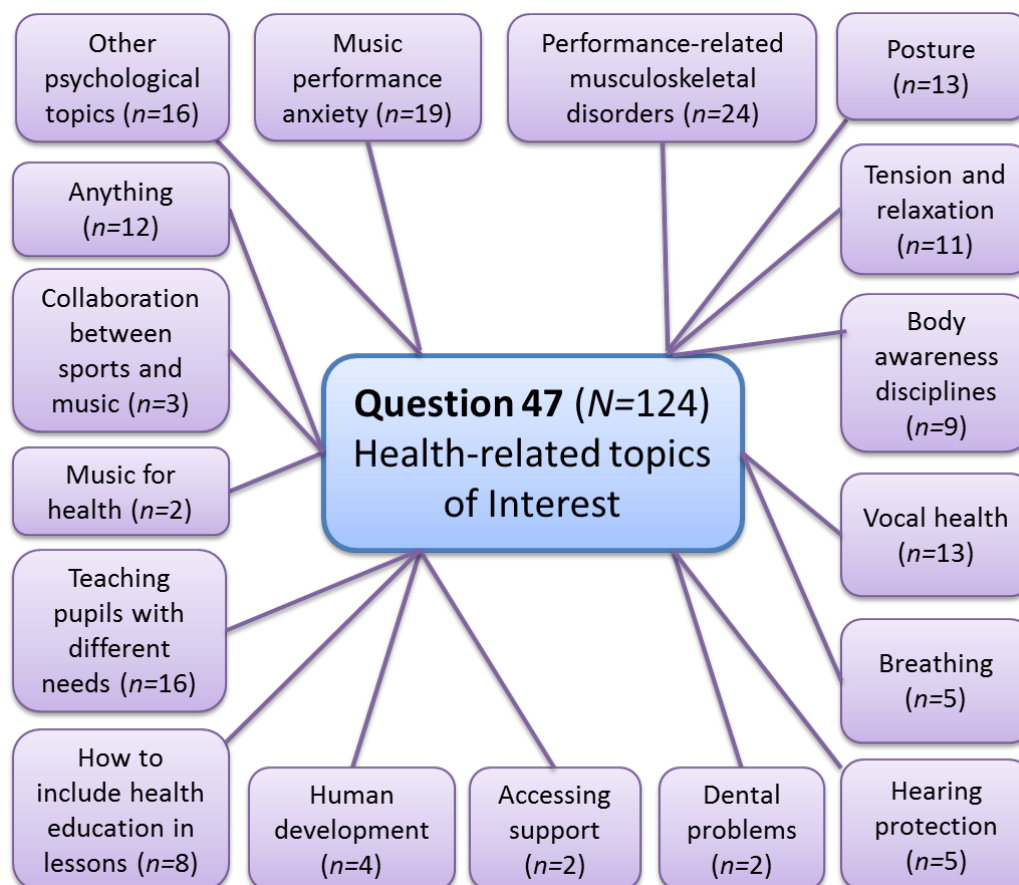


Figure 6.5: Topics of interest to respondents (N=124)

Respondents interested in learning about PRMDs requested information about specific conditions (e.g. Bell’s palsy, repetitive strain injury, carpal tunnel syndrome, thoracic outlet syndrome, hypermobility and arthritis), symptoms relating to PRMDs and how to avoid them, playing-related anatomy, how to warm up and encourage pupils to do so, and safe lifting techniques that are relevant for musicians. One respondent described the kind of resource that he would find helpful:

A small A5 booklet, that would fit into instrumental cases and gig bags (of the type distributed inside magazines), devoted to best practise in terms of excellence in the healthy development of technique, and other areas of pupil and performer well-being. I would like to see anatomical diagrams directed to that particular instrument and its impact on the player’s body etc. Naturally the booklet would have reference to the different organisations involved with pupil and performer well-being. As a professional teacher I would find this very useful helping me to articulate to pupils why we adopt certain methods and so on. (R391)

Topics relating to posture included “assistance with helping students adopt correct technique and posture” (R128) and how to “get pupils to be consistent with good healthy playing posture” (R554). Hearing-related topics included information about hearing loss and protection, “the effects of stress on hearing” (R139), “coping with tinnitus” (R430)

and the Tomatis Method (R477). Respondents' interest in vocal health related to the effects of pregnancy and the menopause on the voice, "looking after your voice; learning to sing from scratch as an adult" (R165), "a discussion of food that can impede great singing" (R208), "recovery after throat surgery" (R58), and "more about the assessment tools that voice therapy clinics use" (R555).

Nineteen respondents requested information about MPA including "general confidence training, methods for decreasing performance anxiety" (R245), and "control of the mind/nervous system to instil a feeling of confidence and well-being" (R283). Other psychological topics included memory, "brain function, the way it organises/identifies and reacts to information, creates fears" (R127), "links between the physical plane and the subconscious" (R325), "how to self-critique" (R37463), "individual learning styles" (R425), and "understanding how the body copes under stress" (R505). Several requests were directed towards gaining information for their own benefit: e.g. "I would like a properly scientific study to be made into the effects of alcohol on musicians" (R290), "what is the optimum amount of pupils one can teach per week without burnout?" (R139), "what are the psychological effects of working in a highly competitive creative industry?" (R628), and "training in how to deal with the role of 'counsellor'" (R571). A vocal teacher wanted to learn "how to survive a singing lesson from an emotionally abusive teacher" (R439).

Sixteen respondents expressed an interest in learning how to enhance their ability to teach pupils with different needs, for example: talented children, deaf pupils or those with impaired hearing, and pupils with physical disabilities, dyslexia or dyspraxia, learning difficulties, or Raynaud's Syndrome. A few respondents were interested in the effects of aging on performance, in particular dementia and failing sight, but also care of the voice into old age. Four respondents wanted to learn about human development: i.e. "cognitive and motor skills, sequencing and organisation" (R131), "physical problems with growing children" (R267), "developmental delay in children and adults" (R425), and "the development of children in relation to learning the piano...more techniques for ensuring that what I teach is beneficial to their overall development" (R230). Topics relating to including health promotion in lessons included the "importance of safe practice in the classroom and more awareness of the voice in classroom settings" (R91), "case studies of when people have had problems and how they solved them" (R166), and "a structured way of learning so that the information that we can then use with students can be given at the right time and in the right way" (R259).

6.2 Intervention studies

Most survey respondents reported that they would like to learn more about health promotion, primarily from the internet, books, and one-off CPD events. Interviewees reported that they would like to learn by engaging with representatives of an interdisciplinary health promotion team. Rickert et al. (2015) state that balanced collaborations between musicians and HCPs will be crucial to enacting healthy changes in the music sector and that 'translational research' (i.e. research that transfers latest research findings into measures that influence practical endeavours) will be an important part of these changes. Two studies were designed to provide teachers and health promotion stakeholders with access to health-related information, and to investigate their experiences using those resources. The methods and key results of these studies are presented in Sections 6.2.1 and 6.2.2.

6.2.1 Book evaluation study

Over a third of survey respondents had gained health-related information by reading books, articles, or information on the internet and over half would like to learn about health promotion by reading books. However, most respondents had not heard of, read, or purchased any of the shortlisted books that were presented in the survey. There is clearly a demand for resources that are capable of conveying health-related information to UK instrumental/vocal teachers, but it is not clear why teachers are not consistently engaging with existing resources that may be of interest to them. To date, research has not investigated the content of health-related resources that are available in the UK, or teachers' experiences of reading and applying information to their teaching. Research is needed to investigate how teachers' experiences with health-related resources could be optimised. To this end, a book evaluation study was designed; the primary objective was to provide teachers with access to books and investigate their experiences with this form of learning. A secondary objective was to gather data regarding how to develop resources that are valued by teachers and HCPs; therefore HCPs were also invited to participate to provide a range of perspectives on the content of the books.

Method

The study was conducted in three phases: a pilot study followed by two evaluation stages.

Pilot study

The primary objective of the pilot study was to choose a list of books that would be included in the survey study: see Appendix H for more information about the pilot study and Section 5.1.2 for survey study results relating to these books. Eleven books were shortlisted for inclusion in the survey study based on content, price (less than £40), availability, publication date (post-1994), and popularity among pilot study respondents.

Evaluation Study

Stage 1: Procedure and materials

I invited publishers of the books identified in the pilot study to participate in the research by donating up to 10 copies of their book(s): see Appendix I for information sent to publishers. Five publishers and two authors donated books and I bought the remaining books using a discount supplied by the publisher. I invited pilot study and survey study participants to participate in the evaluation study and additional participants were purposively recruited from my professional networks. Copies of the Stage 1 and 2 recruitment messages are shown in Appendix J. Those who responded to the Stage 1 recruitment message were invited to indicate whether they owned any of the shortlisted books; if they did they were asked to review the book(s) using the online review survey supplied (see Appendix K). All respondents were informed about Stage 2 of the research, during which they would be invited to read and review a selection of books; 48 respondents expressed an interest in participating in Stage 2 by leaving contact details.

Stage 2: Procedure and materials

I selected Stage 2 participants based on their geographical location (to minimise postage costs), teaching instrument, and profession (to recruit teacher and HCP participants). They were offered the opportunity to review a selection of books¹¹³ and allowed to indicate that they did not want to read a suggested book or to include a book that had not been suggested. Books were either posted to participants (return postage included) or hand-delivered and collected by me. Participants indicated that they understood they would be charged for the books if not returned in good condition, that inclusion of the books in the study was not an endorsement of their content, and that I could not take responsibility for decisions made as a result of reading the books. Each package of books included an information sheet that listed the books and gave details of the online review

¹¹³ Books were chosen by the researcher based on information that participants gave during Stage 1, in particular their teaching instrument, and the availability of resources.

survey (see Appendix L) and my contact details. An overview of topics covered in the evaluation study is shown in Table 6.2.

Table 6.2: Summary of topics commented on by evaluation study participants

Topic	Answer formats	Further information
First impressions	Text box	Comments relating to the book's aesthetics, size and weight, text to picture ratio, author information, or cover material
Academic rigour	Likert scale Text box	Whether the book is based on a critical analysis and examination of the topic, has appropriate referencing, and contains information that is accurate according to current research.
Accessibility for teachers	Likert scale Text box	Whether there is jargon, and whether information would be understood by all readers.
Practicality	Likert scale Text box	Whether the information would be for practical for teachers to use and refer to in lessons.
Likelihood of purchasing for personal use	Single-choice (Yes or No) Text box	Whether participants would buy the resource for the stated amount (price of a new paperback copy).
Likelihood of recommending to teachers	Single-choice (Yes or No) Text box	Whether participants would recommend this resource to (other) teachers.

Stages 1 and 2: Participants

Thirteen people reviewed books during Stage 1 (five teachers and eight HCPs) and 26 reviewed books during Stage 2 (19 teachers and seven HCPs); anyone who reviewed a book is referred to as an evaluation study participant (ESP). The total sample included 22 teachers and 11 HCPs, 10 of whom were male and 23 female. ESPs' ages ranged from 20 to 71 (mean=49.61, SD=13.77, median=52). All but four ESPs played an instrument; there were nine vocalists, eight strings, five keyboard, four woodwind, and three brass players. Professional experience ranged from less than five to more than 30 years. See Appendix M for information about ESPs and the books that they reviewed.

Stages 1 and 2: Analysis

Over the course of the study 112 book reviews were submitted. Each book was reviewed by at least two teachers and two HCPs and I analysed the reviews in two phases. During the first phase all reviews were analysed and results collated into an individualised overview of each book (these can be found in Appendix N). I analysed qualitative data generated via open-ended text boxes thematically (Braun & Clarke, 2006) and quantitative data generated from Likert scales using descriptive statistics. During the second phase of analysis I re-read the overviews and coded them to identify over-arching themes and compared quantitative data relating to each of the books. Key results relating to overall book ratings, a summary of ESPs' comments about the books, and data regarding ESPs' experiences of engaging with the books are presented below.

Key results

Likert scale results and comparison between teachers and HCPs

ESPs used Likert scales from 1 'not at all' to 7 'very' to rate their perceptions of the academic rigour, accessibility, and practicality of each book; an overall mark was calculated by adding these scores together. Tables 6.3 and 6.4 summarise the total number of ESPs who reviewed each book, the mean overall marks and ranking, and the mean marks and ranking of each book in terms of academic rigour, accessibility, and practicality; Table 6.3 summarises teachers' results and Table 6.4 summarises HCPs' results. Both tables also show the approximate cost of each book and the number of ESPs who might or would buy the book for themselves and the number who would recommend it to a teacher. The mean ratings for academic rigour, accessibility and practicality are also shown in Figures 6.6 and 6.7; books are ordered from top to bottom according to their ranking (books at the top were ranked highest overall). Teachers generally gave higher marks than HCPs for academic rigour, accessibility and practicality. Books that were ranked in the top five by teachers were different to the five highest ranked books for HCPs. Only three resources were ranked the same by teachers and HCPs: Williamon (2004) was ranked 3rd, Paull and Harrison (1997) was ranked 6th, and Conable and Conable (2000) was ranked 11th.

The books that were ranked highest by teachers and HCPs (Evans & Evans, 2013 and Klickstein, 2009) received the highest ratings for accessibility, followed by practicality and lastly academic rigour. The lowest rated book (Conable & Conable, 2000) also received the highest mark for accessibility but there was a much bigger difference between ratings for accessibility and those for practicality and academic rigour. The book that was ranked highest by HCPs (Klickstein, 2009) was ranked 8th by teachers; all five HCPs reviewers would recommend the book to teachers whereas teachers considered the information it contained to be basic and would therefore be unlikely to recommend it to teachers. Conversely, the book that was ranked highest by teachers (Evans & Evans, 2013) was ranked 8th by HCPs; however, the book was only reviewed by two HCPs and the rating for academic rigour from one HCP was particularly low.

Table 6.3: Mean ratings and ranking of books overall, and in relation to academic rigour, accessibility and practicality (teacher-participants)

Book	# of reviewers	Overall mark		Academic Rigour		Accessibility		Practicality		Price	Purchase and recommend	
		Mean	Ranking	Mean	Ranking	Mean	Ranking	Mean	Ranking		Might or would buy	Might or would recommend
Evans & Evans (2013)	5	18.20	1	5.20	6	7.00	1	6.00	1	£19.00	4 of 5	4 of 5
Rosset i Llobet & Odam (2007)	7	18.14	2	5.43	5	6.71	2	6.00	1	£17.99	6 of 7	7 of 7
Williamon (2004)	6	17.83	3	6.33	2	5.33	8	5.67	3	£39.99	5 of 6	6 of 6
Horvath (2010)	8	17.38	4	5.75	4	6.13	5	5.50	4	£20.00	4 of 8	6 of 8
Chapman (2011)	5	17.20	5	6.00	3	5.80	6	5.40	5	£40.00	3 of 5	5 of 5
Paull & Harrison (1997)	8	16.57	6	4.43	9	6.29	4	5.71	2	£17.99	4 of 8	7 of 8
de Alcantara (2013)	8	14.38	7	4.50	8	4.75	10	5.13	6	£27.95	5 of 8	6 of 8
Klickstein (2009)	4	14.00	8	4.25	10	5.50	7	4.25	7	£15.99	1 of 4	2 of 4
Watson (2009)	9	13.89	9	6.78	1	3.56	11	3.56	9	£34.95	2 of 9	6 of 9
Malde et al. (2013)	5	13.8	10	4.80	7	5.00	9	4.00	8	£32.00	2 of 5	2 of 5
Conable & Conable (2000)	3	13.67	11	3.33	11	6.33	3	4.00	8	£15.00	1 of 3	1 of 3

Table 6.4: Mean ratings and ranking of books overall, and in relation to academic rigour, accessibility and practicality (HCP-participants)

Book	# of reviewers	Overall mark		Academic Rigour		Accessibility		Practicality		Price	Purchase and recommend	
		Mean	Ranking	Mean	Ranking	Mean	Ranking	Mean	Ranking		Might or would buy	Might or would recommend
Klickstein (2009)	5	16.80	1	5.00	3	6.20	1	5.60	3	£15.99	4 of 5	5 of 5
Horvath (2010)	4	15.75	2	4.00	7	6.00	2	5.75	1	£20.00	3 of 4	4 of 4
Williamon (2004)	5	15.60	3	6.40	2	4.80	4	4.40	7	£39.99	3 of 5	5 of 5
Rosset i Llobet & Odam (2007)	8	15.50	4	4.13	6	5.75	3	5.63	2	£17.99	5 of 8	7 of 8
Watson (2009)	3	15.33	5	6.67	1	4.67	6	4.00	8	£34.95	2 of 3	3 of 3
Paull & Harrison (1997)	5	14.60	6	4.40	4	5.00	5	5.20	4	£17.99	2 of 5	4 of 5
Chapman (2011)	2	14.50	7	4.00	7	6.00	2	4.50	6	£40.00	1 of 2	1 of 2
Evans & Evans (2013)	2	14.00	8	3.00	8	6.00	2	5.00	5	£19.00	0 of 2	1 of 2
Malde et al. (2013)	3	13.00	9	4.33	5	4.67	6	4.00	8	£32.00	1 of 3	2 of 3
de Alcantara (2013)	4	9.75	10	2.25	9	4.00	8	3.50	9	£27.95	1 of 4	2 of 4
Conable & Conable (2000)	5	9.60	11	2.00	10	4.60	7	3.00	10	£15.00	1 of 5	1 of 5

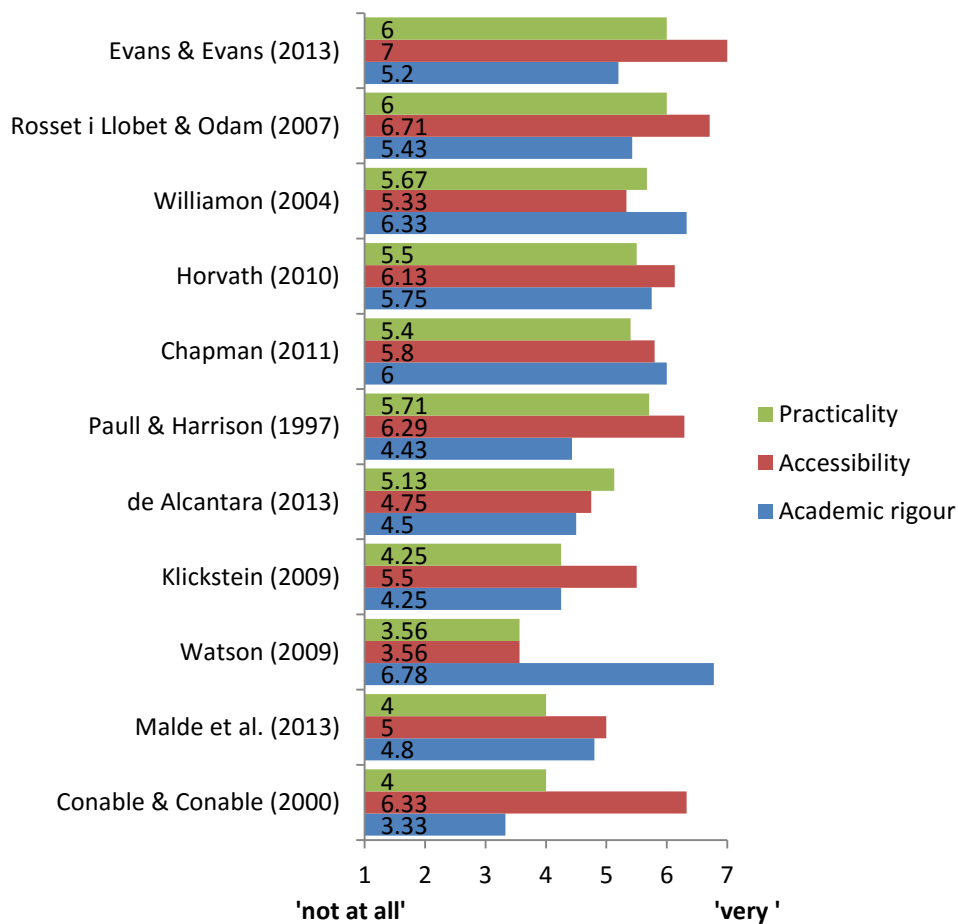


Figure 6.6: Teacher-participants' mean ratings of books

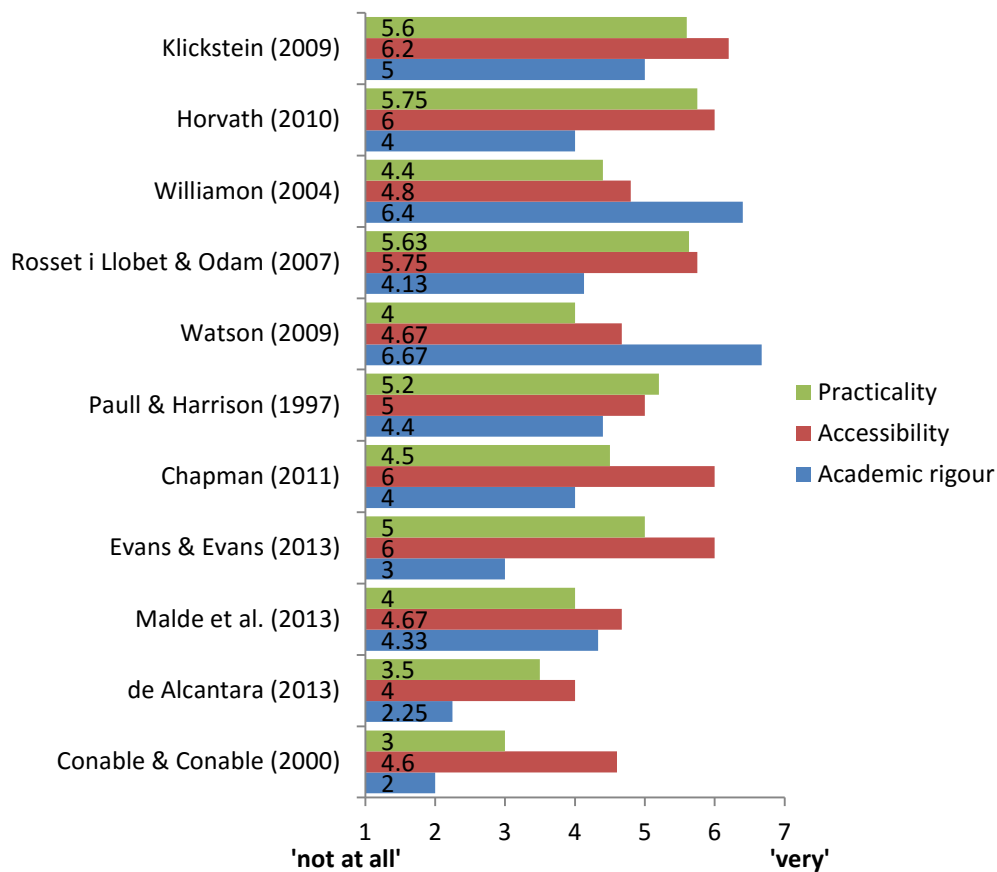


Figure 6.7: HCP-participants' mean ratings of books

Summary of comments

ESPs commented on aspects of the books that positively or negatively affected their reading including: aesthetics and price; the author, editor or publisher; writing style; references and bibliography; content; and structure or format of contents. They also referred to the intended use of a book and association of some books with practical disciplines. This section provides a summary of these comments under the following headings: First impressions, Writing style and author voice, Referencing, bibliography and peer review, Content, Structure and format, and Intended readership or use of resource.

First impressions

An ungrammatical, unclear or dictatorial title negatively affected some ESPs. Teachers preferred books that were not too heavy, would fit in a bag/instrument case, or could be shelved alongside music. All ESPs liked books that were attractive, eye-catching, and looked fun. Authors who had an impressive biography, appeared well-read and experienced, or who had experienced what they were writing about were perceived as good sources of information. Books published by well-known publishers were perceived as likely to be worthwhile, well-written and the product of rigorous peer-review. Teachers wanted books to be good value for money and the proportion of ESPs who would buy a book was generally higher for books that were less than £20 but also higher for books that received higher marks: for example, only two ESPs would buy Conable and Conable (2000) despite it being the cheapest whereas all who reviewed Williamon (2004) would buy it despite it costing £40.

Writing style and author voice

Vague, 'woolly', or repetitive writing that was easy to read but hard to understand was perceived negatively. Resources that were written more informally were perceived by some ESPs as tiresome, patronising, irritating or condescending, particularly if the style was particularly 'American'. One of the books was described as 'religious', 'mystical' and 'new agey' and this negatively affected some ESPs. Resources that were engaging and entertaining were received positively and ESPs generally appreciated the use of simple language and humour. Clear consideration and understanding of musicians' perspectives was regarded positively; ESPs enjoyed reading a 'human story' and suggested that 'happy endings' inspire hope. Authors whose voices were perceived as 'mild' or 'balanced' and not obsessive were received positively whereas authors who tried to convey a 'way of thinking' alongside factual information were reviewed negatively by some.

Referencing, bibliography and peer review

Books that did not refer to relevant, up-to-date research were not rated as highly as books that did. While experience was valued, over-reliance on personal experience without support from or other scholars or peer review was perceived negatively. ESPs valued texts that appeared to be based on substantial subject knowledge and where it was clear which information was based on the author's opinion and what was drawn from research. Resources that contained a comprehensive and clear bibliography, list of resources or further reading, and a clear index were rated highly. A few HCPs suggested that some books were not intended to be academically rigorous; this was not perceived negatively as long as accuracy was not sacrificed in favour of accessibility. Teachers valued books that were based on sound information but remained readable; one teacher reported that they would rather not read a book intended for an academic audience.

Content

Basic problems with content included there being typographical errors, simplistic or muddled information, concepts that could be misunderstood, and content that was not based on accurate information. In some cases ESPs reported that controversial suggestions or authors' opinions were presented alongside or in preference to factual statements. The use of jargon was accepted if terms were explained and used sparingly, but if terms were introduced without an explanation or used frequently ESPs were negatively affected. If a book attempted to cover topics in a daunting or unnecessary level of detail (in the eyes of the reader) it was generally perceived negatively, especially if the writing was dense, dry and/or academic. However, books that stated the obvious, were trivial, omitted important information, or 'glossed over' sections were also perceived negatively. Teachers valued books that did not assume a prior level of understanding but rather built the reader up to understanding complex concepts that would improve their teaching. ESPs wanted resources to confirm or extend their existing knowledge, strategies to implement immediately, and 'food for thought' to facilitate future development. They valued information being linked to 'real-world' applications and clear guidelines regarding how to achieve the goals that were laid out. ESPs were also positive about books that contained memorable material that they could quote to pupils and colleagues.

Structure and format

Teachers reported that they wanted to be able to 'dip in and out' of a book rather than commit to reading 'from cover to cover'; the ability to do so was aided by a sensible and understandable structure, well laid out contents page, short sections with clear

objectives, and a user-friendly layout. Negative comments were made about books that used dated pictures, complex and tricky graphs, stylised inaccurate illustrations, and poorly labelled diagrams. ESPs' first impressions were enhanced if they perceived a book to contain a balance of text, pictures, diagrams, illustrations, case studies, anecdotes, or other formats. The practicality of a resource was often judged based on whether it included relevant exercises, resources and materials. Negative comments were made about books that did not contain practical advice, were written for use in another country, or included exercises that are no longer deemed appropriate or should be done under the supervision of an HCP. ESPs commented positively on books that included well-explained and fun exercises that could be used in lessons, information that did not need specialist equipment or training to apply, and clear and intelligent solutions. The book by Watson (2009) was distributed on a CD-ROM rather than as a hard copy. ESPs generally found this hard to engage with and would have preferred to read a hard copy. However, some ESPs suggested that the material was better suited to a computer screen, that it was useful to have electronic resources, and that they found it easy to have supplementary materials open alongside the text. All of the ESPs who accessed the supplementary materials included with Watson (2009) reported that they were very useful. A few books had companion websites but relatively few ESPs accessed them; those that did reported that it was useful if the website indicated how to access further information. In a few cases the website negatively affected ESPs' perceptions of a book.

Intended readership or use of resource

Some resources were perceived as a reference tool for teachers whereas others would be used in lessons or given to pupils to read and then discuss. The resource by Watson (2009) was perceived as a book to recommend to those who wanted a more in-depth follow-up text; one teacher likened using this book in a lesson to a driving instructor using a manual on how to build a car in a driving lesson. There was disagreement between HCP reviewers with one suggesting that musicians are inquisitive and work hard to understand difficult concepts and another suggesting that teachers are unlikely to read detailed resources. This was echoed by teachers with some reporting that they had been able to learn from the detailed books, whereas others found them too complicated and would have preferred simpler explanations. There were also conflicting comments regarding the intended readership of a book; some were annoyed if a resource focused on one group of musicians (e.g. specific instruments or genres and certain pupil age groups) whereas

others reported that if a book attempted to cater for all groups it was likely to omit key information. Several ESPs reported that they would be more likely to recommend a book other than the one they reviewed because they perceived the alternative resource as more accurate, concise, practical, or ‘lighter reading’. Another issue was how authors referred to other perspectives and resources; a teacher reviewed one book negatively because it focused on ‘debunking’ other teaching methods but reviewed another resource positively because it espoused a clear methodology without discounting the existence or value of other approaches. Two physiotherapists expressed concern that books may be used to replace advice from an HCP, and a teacher also commented that it is important to refer pupils when appropriate. ESPs suggested that taking part in Alexander Technique lessons is ideal and that the book by de Alcantara (2013) should be used in conjunction with lessons. Likewise, some ESPs commented that engagement with the Conable and Conable (2000) book might be enhanced through participation in the associated course. ESPs also suggested that practical demonstrations or face-to-face engagement with an expert in the field would enhance their understanding of some of the more complex concepts covered in the books.

Participants’ experiences

Some ESPs offered comments about their participation in the study using an open-ended text box; all comments were positive and indicated that ESPs had enjoyed taking part and thought the research was worthwhile (see summary of comments in Table 6.5).

Table 6.5: Examples of ESPs’ experiences during the book evaluation study

R#	Illustrative quotations
ESP6	Thanks for inviting me to read these resources. I would very much like to read more and to complete those I haven’t finished, but am currently very restricted on time between work and family commitments.
ESP16	Well done for what you are doing! I look forward to hearing about your findings and how we can raise awareness generally in the teaching and performing profession.
ESP29	It was good to have the chance to discover more resources, and if only I’d had more time right now I’d have liked to add even more, so thanks!
ESP33	...I have been pleased to observe, from the material I have read and reviewed, that many of my non-musical activities and trainings have served me well through the years, both for my own well-being and that of my students...To see all of this in easily digestible form and to have the added benefit of really useful illustrations in some of the review material I’ve seen, is truly wonderful and inspiring. There is always more to learn and I am certain that I have added to my knowledge and understanding through my participation in your research.
ESP34	Although sight of these resources has whetted my appetite, I find the cover prices are too high for the amount I think I would use them...it’s possible that now I’m aware of the wide range of work available, I could well be looking in the second hand book section of Amazon to add to my library!

One of the HCPs made particularly relevant comments regarding collaboration between teachers and HCPs:

Texts combining concepts of practical musicianship together with healthy habits will probably have the greatest appeal to musicians, though may seem less illuminating when perused by those health professionals who do not themselves appreciate musicianship. All this seems to point to the great need for more collaboration between music teachers and health professionals - working to learn as much as possible from one another. Only then will these texts achieve the resonance that the best of them deserve. (R31)

ESPs were also invited via email to comment on why they had chosen to participate, and whether they had found participation worthwhile and/or challenging. Eight teachers (R1, R3, R5, R6, R16, R17, R33, & R33) and one physiotherapist (R24) responded. They reported that they had chosen to participate because they believed the study was interesting, wanted to help with research, thought they would learn something, and felt it was a good opportunity to access resources for free. Teachers found participation worthwhile because they gained knowledge that could be shared with others, it gave them hope for the future, and confirmed or extended their knowledge; R1 also commented that “at last, here is something aimed at the teacher”. Challenging aspects related to finding time to read and engage critically with books when participants were not used to doing so; however, all of those who responded found it useful to set aside time to read, described the reading process as enjoyable and thought-provoking, had been inspired to include relevant content in lessons, and felt that their contributions to the research were valued.

6.2.2 CPD event study

Approximately a quarter of survey respondents had gained health-related knowledge via training. In the UK pedagogical qualifications are not required to teach instrumental/vocal lessons and many musicians learn to teach ‘on-the-job’ and through CPD events (see Section 2.5.2). Hildebrandt & Nübling (2004) provided a course of sessions aimed at inspiring teachers to include physiology-related content in their teaching; these sessions were well-received and the researchers described it as a starting point for further development. Over half of the teachers in the current study indicated that they would like to learn during one-off lectures whereas only a third would like to learn from a series of lectures. Therefore, research is needed to investigate the efficacy and appropriateness of one-off events for UK instrumental/vocal teachers who are interested in health-related information. To this end, a CPD event study was designed. The primary objective was to investigate how effective this type of event is for exchanging health-related information,

building a community of people who are interested in promoting musicians' health, and facilitating access to resources. A secondary objective was to gather data regarding how future events could be developed and improved. The event, entitled *Promoting Health and Well-Being in Music Lessons*, took place on Sunday 19th January 2014 at RNCM.

Method

Materials

Four surveys were designed to investigate delegates' experiences at the event; a summary of the data collection method, number of respondents, answer formats and information that was included in each survey is shown in Table 6.6. Surveys were developed based on existing literature, insights gained from my previous research (Norton, 2012) and professional knowledge: copies of the surveys can be found in Appendices O-R. Attendees were provided with a delegate information sheet (see Appendix S) prior to registration which informed them that the event would be recorded, that they would be treated as research participants, and asked to sign a consent form at registration (see Appendix T). The two post-event surveys were designed and distributed using the online survey software eSurveysPro.

Procedure

I organised the event with support from RNCM, my supervisors, and professional contacts.¹¹⁴ Parallel presentations ran between 10am and 4pm with short breaks for refreshments and networking (see Appendix U the event timetable). There was additional information from sponsors, preliminary analysis of my research, a delegate pack, book table (reference only) and selection of books for sale. The event information and pre-event surveys were distributed and collected at the event. Delegates were invited to take part in discussion groups, one of which I facilitated and five of which were chaired by volunteers (see Appendix V for discussion topics). The event was recorded by RNCM's audio-visual team and recordings were solely for use by the researcher. The two post-event surveys were completed online (see Table 6.6 for details).

¹¹⁴ RNCM provided a free venue, administrative support and a £330 research grant; additional income came from sponsorship (£340), and delegate registration fees (£1151). Tickets for external delegates cost £25 (early bird) or £28. Attendance by RNCM staff was supported by a £200 grant from the Academic Development Fund. Delegates who participated in the interview study were given complimentary tickets. Event costs included presenter fees and travel (£1050) and catering (£660). The event made just over £100, which was kept by RNCM to cover administrative costs

Table 6.6: Information about the CPD event study surveys

Survey	N	Data collection	Answer formats	Information or questions
Survey 1: Event information	26	Distributed on paper at the event and collected before delegates left	Multiple choice Text boxes	Feedback relating to event advertising, ticket price, and venue; the inclusion of research elements at the event; the inclusion of sponsored products and resources; and likelihood of attending a similar event again.
Survey 2: Pre-event	37	Distributed on paper at the event and collected before delegates left	Likert scales	Participant identification code (initials, initial of mother's maiden name, month and year of birth) Awareness of various health-related topics including: <ul style="list-style-type: none"> • Lifestyle/practice habits, pacing and anatomy • When and where to seek help • PRMDs, vocal problems, MPA, NIHL, burnout
Survey 3: Post-event 1	41	Distributed as an online survey during the two weeks after the event (Monday 20 th January – Sunday 2 nd February)	Multiple choice Text boxes Likert scales	<ul style="list-style-type: none"> • Participant identification code • Participant information (sex, age, professional activities, instrument(s), experience) • Feedback about the most/least useful elements of the event, use of lecture-based learning, information included in the delegate pack, and post-event discussion groups • Awareness of health-related topics (same as for pre-event survey) • Prior sources of health-related knowledge/awareness and suggested topics to include in future events • Ratings and comments regarding whether the event provided practical and applicable information, delegates felt they had learned as a result of attending the event, the event affected opinions about health promotion, and attendance at the event will affect teaching and/or musical practice
Survey 4: Post-event 2	28	Distributed as an online survey six months after the event (Thursday 26 th June – Thursday 10 th July)	Multiple choice Text boxes Likert scales	<ul style="list-style-type: none"> • Participant identification code • Participant information (sex, age, changes in professional activities since event) • Awareness of health-related topics (same as for pre-event and post-event 1 surveys) • Feedback about the most/least useful element, use of the resources provided at the event, and further engagement with health promotion resources • Ratings and comments regarding whether the event provided practical and applicable information, delegates felt they had learned as a result of attending the event, attendance at the event has influenced opinions about health promotion, and affected activities since the event

Respondents

The event was attended by 54 delegates, eight speakers, five sponsors, and four event helpers. Delegates included music teachers, performing musicians, body awareness specialists, and HCPs. Fifty delegates responded to at least one of the surveys; 27 to the event information survey, 37 to the pre-event survey, 41 to the first post-event survey, and 28 to the second post-event survey. These delegates are referred to as 'Event Respondents' (ERs). There were 32 female and 12 male ERs ranging in age from 20 to 70 years (mean=47.91, SD=15.87, median=47.5).¹¹⁵ Five ERs were not musicians and 12 were not teachers; the remainder played and taught a range of instruments including voice, bowed strings, keyboard, woodwind, plucked strings and brass. Most ERs had between 11 and 30 years' experience ($n=6$) but seven had more than 31 years' experience and six had less than 10 years' experience. See Appendix W for key information about ERs.

Analysis

I collated ERs' responses to the individual surveys using their participant identification code. Quantitative results were analysed using descriptive statistics and repeated-measures non-parametric tests (Wilcoxon-signed rank tests and Friedman's ANOVA). Qualitative results were analysed thematically (Braun & Clarke, 2006) and illustrative quotations are provided where appropriate.

Key results

Key results are presented below including analysis of ERs' health-related knowledge before and after the event, ERs' perceptions regarding the effect of attendance at the event, and general comments about ERs' experiences at the event.

Health-related knowledge pre- and post-event

On the pre-event and two post-event surveys ERs rated the extent to which they considered themselves knowledgeable about 26 health-related topics from 1 (not at all aware) to 7 (very knowledgeable). Table 6.7 shows the 26 topics and mean (SD) ratings. With the exception of 'definition of NIHL' and 'symptoms of NIHL' mean ratings during the two weeks after the event were higher than before the event. Furthermore, with the exception of 'symptoms of PRMD' and 'treatment of vocal problems' mean ratings six months after the event were higher than pre- and immediately post-event.

¹¹⁵ Age and sex data missing for six respondents and musical instrument data missing for nine respondents.

Table 6.7: Mean health-related knowledge ratings pre- and post-event

	Pre-event (N=37)		Post-event 1 (N=41)		Post-event 2 (N=28)	
	Mean	SD	Mean	SD	Mean	SD
Healthy practice habits	5.08	1.46	5.65	1.00	6.15	0.99
Healthy lifestyle habits	5.68	1.27	5.73	0.96	6.07	1.15
Pacing activities	4.89	1.39	5.65	0.83	5.75	1.30
Playing-related anatomy	4.41	1.69	5.02	1.33	5.58	1.36
Where to seek help for a PRP	4.69	1.77	5.28	1.54	5.64	1.66
When to seek help for a PRP	4.68	1.75	5.33	1.51	5.43	1.64
Definition of MPA	4.35	1.64	5.08	1.37	5.11	1.55
Symptoms of MPA	4.57	1.63	5.23	1.41	5.46	1.37
Prevention of MPA	4.22	1.71	5.08	1.23	5.07	1.49
Treatment of MPA	3.94	1.57	4.90	1.30	5.07	1.36
Names of PRMDs	3.11	1.55	4.28	1.62	4.44	1.83
Symptoms of PRMDs	3.78	1.67	4.53	1.57	5.00	1.76
Prevention of PRMDs	3.76	1.83	4.62	1.58	5.11	1.67
Treatment of PRMDs	3.25	1.54	4.30	1.49	4.46	1.75
Names of vocal problems (VPs)	3.23	1.96	3.65	1.59	3.73	1.72
Symptoms of VPs	3.64	1.94	3.82	1.60	4.09	1.60
Prevention of VPs	3.51	2.05	4.14	1.66	4.17	1.85
Treatment of VPs	3.00	1.86	3.65	1.70	3.38	1.63
Definition of NIHL	4.03	1.90	3.78	1.65	4.74	1.79
Symptoms of NIHL	4.03	1.82	3.95	1.83	4.78	1.81
Prevention of NIHL	3.82	1.87	4.14	1.81	4.78	1.63
Management of NIHL	3.26	1.62	3.38	1.62	4.00	1.52
Definition of burnout	3.71	1.60	3.84	1.69	4.62	1.88
Symptoms of burnout	3.57	1.50	3.76	1.58	4.70	1.92
Prevention of burnout	3.55	1.73	3.79	1.68	4.30	1.73
Treatment of burnout	3.34	1.59	3.63	1.58	4.11	1.70

Note: The number of respondents who responded to each survey is shown in each column

Friedman's ANOVA and Wilcoxon signed rank tests were used to test differences between mean ratings before and after the event. ERs who did not provide ratings at all three data collection points were excluded leaving a data set of 23: see Table 6.8 for a summary of statistical analyses and Figure 6.8 for mean ratings (significant differences shown using dotted black lines). NIHL and burnout were not explicitly covered at the event and differences between mean ratings for these topics were not all significant. There were significant increases in mean ratings for topics that were covered in detail at the event; i.e. MPA, PRMDs, practice habits, pacing, playing-related anatomy, and seeking help. Furthermore, most of the ratings six months after the event were significantly higher than during the two weeks after the event. Although mean ratings for voice-related topics increased from pre-post event the only significant increase was pre-event to six months post-event for the prevention of vocal problems; there was a session on vocal problems but it was an instrument-specific session that would not have been relevant to all.

Table 6.8: Significant differences between mean health-related knowledge scores pre- and post-event ($N=23$)

	Friedman's ANOVA	Post-hoc Wilcoxon signed-rank tests*		
		Pre-Post 1	Pre-Post 2	Post 1-Post 2
Healthy practice habits	$\chi^2(2)=11.723, p=.003$	($z=-2.394, p=.017$)	$z=-2.638, p=.008$	Non-sig.
Healthy lifestyle habits	$\chi^2(2)=7.538, p=.023$	Non-sig.	($z=-1.127, p=.041$)	Non-sig.
Pacing activities	$\chi^2(2)=15.800, p<.001$	$z=-3.017, p=.003$	$z=-2.721, p=.007$	Non-sig.
Playing-related anatomy	$\chi^2(2)=11.586, p=.003$	$z=-2.638, p=.008$	$z=-2.850, p=.004$	Non-sig.
When to seek help for a PRP	$\chi^2(2)=7.625, p=.022$	$z=-2.609, p=.009$	$z=-2.448, p=.014$	Non-sig.
Where to seek help for a PRP	$\chi^2(2)=8.273, p=.016$	($z=-2.131, p=.033$)	$z=-2.635, p=.008$	Non-sig.
Definition of MPA	$\chi^2(2)=9.794, p=.007$	$z=-2.404, p=.014$	($z=-2.083, p=.037$)	Non-sig.
Symptoms of MPA	$\chi^2(2)=9.800, p=.007$	$z=-2.756, p=.006$	$z=-2.637, p=.008$	Non-sig.
Prevention of MPA	$\chi^2(2)=16.203, p<.001$	$z=-3.445, p=.001$	$z=-2.805, p=.005$	Non-sig.
Treatment of MPA	$\chi^2(2)=16.971, p<.001$	$z=-3.333, p=.001$	$z=-2.875, p=.004$	Non-sig.
Names of PRMDs	$\chi^2(2)=14.486, p=.001$	$z=-2.838, p=.005$	$z=-3.094, p=.002$	Non-sig.
Symptoms of PRMDs	$\chi^2(2)=11.552, p=.003$	$z=-2.494, p=.013$	$z=-2.421, p=.015$	Non-sig.
Prevention of PRMDs	$\chi^2(2)=11.373, p=.003$	Non-sig.	$z=-2.515, p=.012$	Non-sig.
Treatment of PRMDs	$\chi^2(2)=15.029, p=.001$	$z=-2.971, p=.003$	$z=-2.769, p=.006$	Non-sig.
Names of VPs	Non-sig.			
Symptoms of VPs	Non-sig.			
Prevention of VPs	$\chi^2(2)=6.157, p=.046$	Non-sig.	$z=-2.796, p=.005$	Non-sig.
Treatment of VPs	Non-sig.			
Definition of NIHL	Non-sig.			
Prevention of NIHL	Non-sig.			
Symptoms of NIHL	Non-sig.			
Management of NIHL	Non-sig.			
Definition of burnout	$\chi^2(2)=7.485, p=.024$	Non-sig.	$z=-2.686, p=.007$	$z=-2.372, p=.018$
Symptoms of burnout	$\chi^2(2)=8.029, p=.018$	Non-sig.	$z=-2.621, p=.009$	($z=-2.214, p=.027$)
Prevention of burnout	$\chi^2(2)=6.758, p=.034$	Non-sig.	$z=-2.427, p=.015$	($z=-2.121, p=.034$)
Treatment of burnout	$\chi^2(2)=7.768, p=.021$	($z=-2.048, p=.041$)	$z=-2.613, p=.009$	Non-sig.

*Note: Analyses only included the 23 delegates who contributed to all three data collection points. A Bonferroni correction was applied so $\alpha=.0167$; results shown in brackets are those that were significant before the correction was applied.

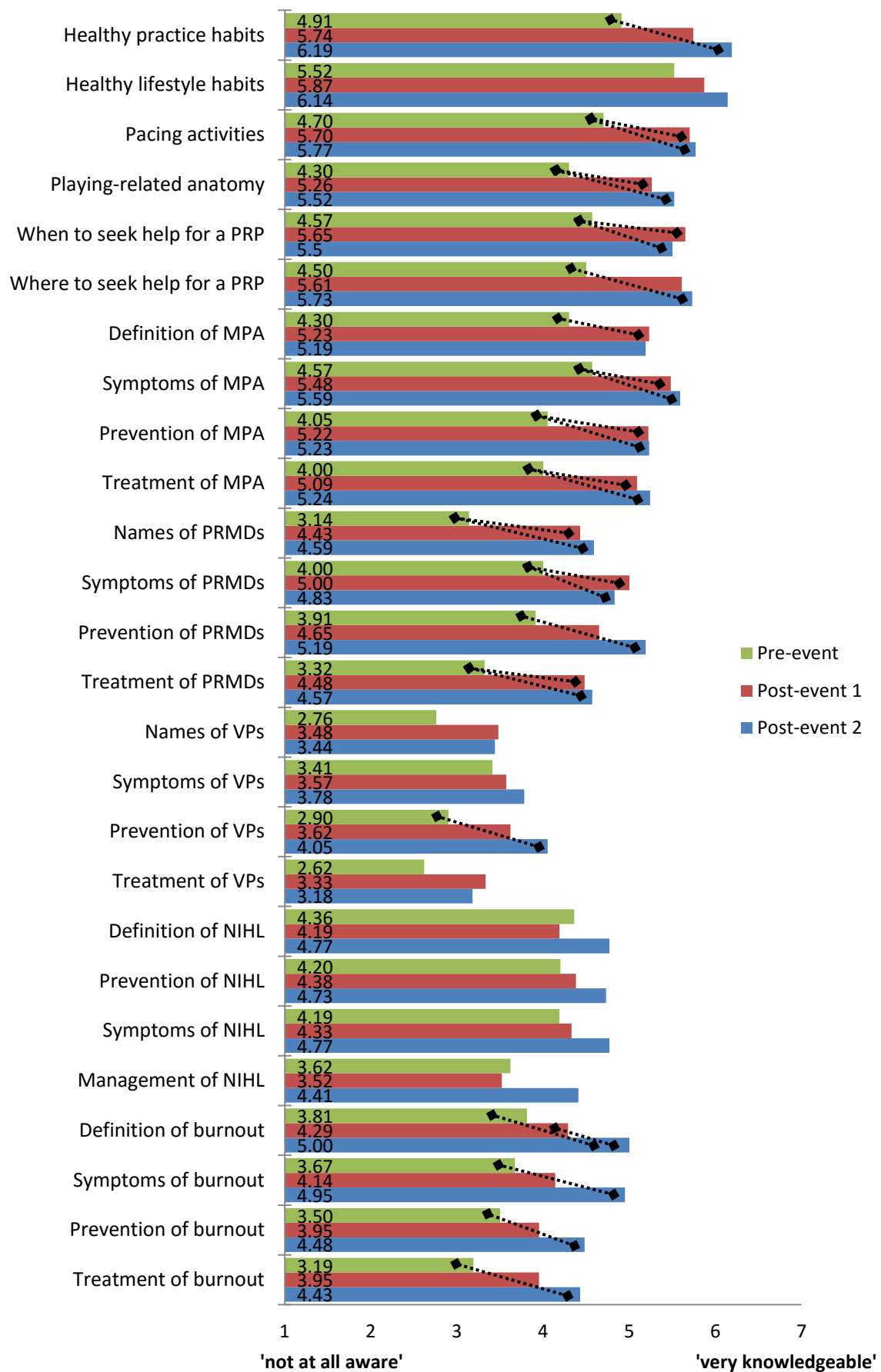


Figure 6.8: Mean health-related knowledge ratings pre- and post-event (N=23)

Perceived effects of attendance at the event

ERs indicated the extent to which they believed they had learned at the event, the event had included practical and applicable information, and attendance had affected their beliefs about the inclusion of health promotion in music lessons using Likert scales ranging from 1 'not at all' to 7 'very much' (see Table 6.9 for a summary of results).

Table 6.9: Average Likert Scale ratings of event-related topics

Event-related topics	Post-event 1 (N=41)			Post-event 2 (N=28)		
	Mean (SD)	Median	Mode	Mean (SD)	Median	Mode
Extent to which ERs believed they had learned at the event	5.65 (1.39)	6	7	5.86 (1.38)	6	7
Extent to which ERs considered the event to include practical and applicable information	5.73 (1.11)	6	6	5.79 (1.29)	6	6
Extent to which ERs perceived attendance at the event to have affected their beliefs about inclusion of health promotion in lessons	5.50 (2.03)	5	7	5.36 (1.99)	6	7

During the two weeks after the event those who suggested that the event had not affected their beliefs (i.e. rating of 1 out of 7) generally reported that they already believed that health promotion is important, for example:

The importance of health and well-being are already at the centre of my teaching, performing and therapy work...[The event] just confirmed it for me and made me happy to see that these questions are becoming more and more valued. (ER8)

One ER commented that their low rating resulted from their prior knowledge "not because there was insufficient information given on the day" (ER9). ERs who reported that attendance at the event had affected their beliefs commented that they had become aware of new aspects, accessed research that supported their beliefs, gained practical strategies to apply, and felt motivated to continue their current activities. One ER commented that it was "interesting to realise the input music teachers can have and the likely impact of their early involvement" (ER32) and another suggested there should be an organisation for teachers to register with and access training through to "show students/potential students that they care about musician's health" (ER24). Six months later ERs made similar comments, suggesting that they had been involved with health promotion prior to the event but attendance had reinforced and extended their beliefs, for example:

It's broadened my perceptions and understanding...I think even more about these issues than I did before, and work even more to put them into practice, and teach my students how to play safely, and with their own understanding. (ER16)

ER20 stated that attendance at the event had influenced him to the extent that he now treated health promotion as central to his practice as a teacher, rather than peripheral. Another ER commented that health promotion is "now the norm in music colleges but interestingly not at the universities" (ER8).

ERs who were teaching instrumental/vocal lessons at the time of the study rated the extent to which they believed that the event would affect their teaching behaviours (post-event survey 1: range 1-7, mean=5.39, SD=1.79, median=6, mode=7) and subsequently the extent to which attendance at the event had affected their behaviours (post-event survey 2: range=2-7, mean=4.84, SD=1.95, median=5, mode=7). During the two weeks after the event some ERs had already put some strategies or approaches into place or were planning to become more focused and pro-active when addressing health promotion. Some illustrative quotations are shown below:

I have not suddenly become an expert on all aspects of this after one day at a conference, but I will raise awareness more positively and indicate where further advice/support may be sought as required (ER7)

The event was enormously motivating...teachers NEED some sort of training...to give me the tools to make sure I know what I'm doing when it comes to prevention and getting things right. (ER23)

An HCP commented that when she is working with musicians she will now be more aware of issues that might arise and how to provide guidance (ER42). Six months after the event ERs reported that they had followed up reading suggestions, joined relevant organisations, taken up fitness training for themselves, talked about health with pupils, become more attentive to pupils' health in lessons and, as an ER phrased it, "been more interested to explore healthy practice for musicians" (ER10). One ER reported a difficult situation that they had encountered whereby the knowledge that they had gained at the event was directly in contrast with the behaviour of a guest vocal conductor:

We had a very experienced guest conductor who came to conclude our two week music festival and because I had been on your event I found his attitude and lack of care to the choir and the instrumental performers absolutely shocking....the day began at 9.30am and the organist played for the choir rehearsal, went straight on to the chamber orchestra, and then onto the soloists' rehearsal with only two ten-minute breaks. And he was made to feel incompetent, and shouted at by the

conductor...I believe very strongly that an event such as the one you offered to us should be given aiming at conductors and engaging them in how to treat singers, instrumentalists, etc. when they are invited to be guest conductors at music festivals... Although to my shame, and as the choir trainer and accompanist, I didn't say anything, because I still felt that I didn't want to make a 'fuss' on a fairly fraught day. These middle aged conductors will be in the same position as us in that it has never been part of their training. They probably think it is just a fad all this wellbeing etc....they need to be educated. As you did with us!

General comments about experiences at the event

ERs were asked to choose which aspect of the event had been most useful and explain why using an open-ended text box. Table 6.10 shows the number and percentage of respondents who chose each aspect on the first and second post-event surveys.

Table 6.10: Most useful aspects of the CPD event

	Post-event 1 (N=41)		Post-event 2 (N=22)	
Event presentations	77.5%	31	53.6%	15
Discussion groups	2.5%	1	25.0%	7
Networking	15.0%	6	10.7%	3
Informally talking to speakers	2.5%	1	3.6%	1
Delegate pack	2.5%	1	0%	0
Reference table	0%	0	7.1%	2

Five of the respondents who suggested that the discussion groups had been most useful on the second post-event survey had changed their answers from 'presentations' and one had changed from 'networking'. Three of the ERs who had suggested that presentations were most useful on the first post-event survey subsequently suggested that the reference table or talking to speakers had been most useful.

In the open-ended text box provided ERs reported that they particularly valued the inclusion of a delegate list with contact details and the summary of information about the sessions. Networking was reportedly useful because ERs had the chance to meet colleagues who shared their concerns, to realise that they are "not persevering in a vacuum" (ER12), and to gain a range of perspectives. In particular, one ER reported that "the multidisciplinary nature of this event lent itself to even more varied informal discussion and broadened my appreciation of the various roles played" (ER35). Discussion groups were valued because they consolidated the day's learning, included delegates with a range of expertise that facilitated interesting discussions, and gave delegates the opportunity to 'compare notes'. ERs valued informative and insightful presentations that broadened understanding of the field, confirmed existing understanding or extended

knowledge, were well-structured, provided a 'jumping-off point for discussion', and contained practical strategies and tips that were memorable and applicable.

On the first post-event survey ERs were offered the opportunity to give feedback about the presentations and discussion groups. Most ERs (22 of 37) considered lecture-based presentations to be an effective way of learning but the remaining 15 would have liked more interactive or practical sessions alongside lectures. ERs were generally positive about the discussion groups, but one reported a 'personality clash' within the group and another found it unhelpful when others used the session as an opportunity for self-promotion. A few ERs were initially sceptical but reported finding the discussion more engaging than expected; ER4 suggested that "many people are nervous of engaging in conversation with strangers and this was an excellent way of introducing delegates to each other". The inter-professional nature of the event was particularly well-received, for example ER19 reported that it "was interesting to hear from a diverse range of people about their thoughts and perspectives...you have brought together an interesting group!". Some ERs would have liked more time for networking and discussion. Many appreciated that presentations had been delivered either by musicians or those sensitive to musicians – for example, "the level of care and awareness towards musicians was inspiring and reassuring" (ER8) – and suggested that it would be of value to get younger teachers involved in future. A number of ERs were keen for there to be instrument-specific sessions and not to have parallel sessions. One respondent commented as follows:

In a profession where you often work in isolation and are asked by others to work in a way that you feel is detrimental to the wellbeing of your students it is good to feel supported by the experts in the field. (ER56)

All 26 ERs who responded to the event information survey would attend a similar event in future and a third ($n=12$) would be willing to pay between £40 and £60. None of the ERs were negatively affected by the inclusion of research and most were positive: e.g. "it is important to listen to current research" (ER40), "good to be at the forefront hearing about new developments – makes it more exciting!" (ER10), and "nothing felt in anyway intrusive, pleased to be of assistance" (ER15). Twenty-two ERs found sponsor information useful and were either planning to follow up on relevant resources or pass details on to colleagues. ERs reported that it would be best to contact them about future events via email.

6.3 Discussion

The fourth research question sought to investigate the extent to which participants were interested in learning about health education and support, and what their opinions were regarding when health-related information should be available, what it should contain, and how it should be delivered. In addition, two intervention studies were designed to provide teachers and other health promotion stakeholders with access to health-related information and investigate their experiences of accessing and utilising that information. Results are discussed below under the following headings:

1. Interest in learning about health promotion
2. Health-related information for developing musicians
3. Health-related information for tertiary-level musicians
4. Health-related information for instrumental and vocal teachers

6.3.1 Interest in learning more about health promotion

The majority of survey respondents reported that they were interested in accessing health-related information, although results indicate they may be more likely to engage with such information if it is directed towards enhancing their pupils' health rather than their own. The findings of a few previous studies (Barrowcliffe, 1999; Hildebrandt & Nübling, 2004; Laursen & Chesky, 2014; Redmond & Tiernan, 2001) also show that instrumental/vocal teachers are interested in the topic of health-promotion and keen to engage with relevant resources. Throughout this thesis the importance of teachers' personal health has been highlighted in relation to associations between personal experience of PRPs and teachers' health-promoting beliefs and behaviours. Results presented in this chapter support this association as respondents who reported physical symptoms or hearing problems were generally more interested in learning about health promotion than those who did not. Furthermore, these results echo the suggestion made by Zaza (1993) that affected musicians are likely to be motivated to research their condition and the suggestion by Davies and Mangion (2002) that musicians' engagement with health-promoting behaviours is more likely to be rehabilitative than preventative. In the current study certain sub-populations – e.g. female teachers, those who taught young adults, participated in other-than-classical activities, and taught vocal or woodwind lessons – expressed a greater interest in accessing health-related information. These results support the assertion that instrumental/vocal teachers' health-related beliefs and behaviours are predominantly influenced by their sex, instrument and personal experience of PRPs. However, many demographic characteristics were associated with

each other in the current sample therefore it is not clear whether certain teachers had chosen to engage in training as a result of the factors identified or due to a number of other confounding factors (see Section 3.2.3). It is possible that currently available resources are not suited to all teachers' environments, or alternatively that it is harder to disseminate information among certain populations. Further research would be needed to investigate why certain teachers reported higher levels of interest than others, and why some teachers had accessed health-related information and others had not. Nearly all survey respondents reported that it would be appropriate and effective to introduce health-related information during musicians' development through from novices to advanced musicians, and approximately half of respondents felt the same about tertiary-level education, and instrumental/vocal teachers' qualifications and CPD.

6.3.2 Health-related information for developing musicians

In response to the survey study most respondents indicated that health-related information should be made available to beginner, intermediate, and advanced musicians. Australian orchestral musicians who participated in a study by Kenny and Ackermann (2015) also reported that information about physical, psychological, nutritional, and auditory health should be available throughout musical training. Furthermore, many PAM specialists advocate the inclusion of health-related information as early as possible in music education to establish healthy habits and a health-conscious approach to music performance (Blackie et al., 1999; Chesky et al., 2006; Rosset i Llobet, 2004; Spahn, 2011; Voelcker-Rehage, 2012). Instrumental and vocal teachers are one of the few groups involved in music education that are influential in terms of primary and secondary prevention, and also have a supporting role to play in tertiary prevention. The majority of PAM research to date has been conducted by HCPs, for use by other HCPs; however, survey respondents did not regard HCPs as responsible for the health and well-being of healthy pupils and would generally only include HCPs in pupils' care if the pupil developed a problem that the teacher felt unable to deal with (see Section 4.1.4). Most interviewees stated that the proposed inclusion of health-information in the education of developing musicians would need to involve the teachers of those pupils. Therefore, this research indicates that instrumental/vocal teachers are valuable allies of prevention and should be included in the design and maintenance of health promotion initiatives. Goodson (2003) states that, to be effective, the instigators of reforms should collaborate with the people who will be involved in implementing said reforms and use their beliefs

as important building blocks. Therefore, health promotion initiatives for musicians should explore, respect, and utilise instrumental/vocal teachers' personal characteristics and experiences, and their existing health-related beliefs and behaviours; this research has provided important information about these aspects.

6.3.3 Health-related information for tertiary-level musicians

Over half of the instrumental/vocal teachers in the current research believe that it would be effective and appropriate to make health-related information available during tertiary-level music education. Respondents who reported a hearing problem were more likely to suggest that health education should be included in tertiary-level education; it would be of value to investigate whether those with a hearing problem believe that tertiary education is where their hearing was damaged, or where they could have learned what they needed to protect their hearing. Previous research has indicated that tertiary-level musicians are unlikely to have received health promotion education (Burkholder & Brandfonbrener, 2004; Curk & Cunningham, 2006; Kreutz et al., 2008; Spahn, Richter, & Zschocke, 2002). Researchers are calling for tertiary institutions to enhance their duty of care by providing appropriate education and support to protect students' health (Bernhard, 2010; Ford, 2013; Gaunt, 2011). Some institutions have implemented health promotion programmes and preliminary analysis of such initiatives suggests that such courses can positively affect participants' health and wellbeing (Barton & Feinberg, 2008; Martín López & Martínez, 2013; Norton & Greasley, 2014; Spahn et al., 2001; Williamon, Aufegger, & Eizholzer, 2014; Zander et al., 2010). In America the National Association of Schools of Music (NASM) and Performing Arts Medicine Association (PAMA) have ratified a health and safety standard that makes it mandatory for NASM-accredited institutions to inform their students and staff about health and safety issues relating to practicing, performing, teaching, and listening (see www.nasm.arts-accredit.org for details). Recent research by Laursen and Chesky (2014) reports how these standards were addressed in a music education course for pre-service brass teachers; methods courses are not common in the UK but the results are of interest as they indicate that providing health-related information during teachers' professional development, which in this case took place during tertiary education, has a positive effect on musicians' health-related awareness, knowledge, competencies and perceived responsibility. A large-scale AHRC-funded project in the UK, Musical Impact, is currently investigating the performance-related health of a large sample of tertiary-level conservatoire musicians with a view to

implementing better practices in the future. Given the large proportion of university-educated musicians in the present sample it is imperative that the results of this research are shared with university musicians, and that future projects take place in universities as well as conservatoires.

6.3.4 Health-related information for instrumental and vocal teachers

Over half of the teachers who participated in the current research indicated that they believe it would be appropriate and effective to include health-related information in instrumental/vocal teaching qualifications or teachers' CPD. In particular, those who had experienced physical symptoms or MPA were more likely than those who had not to indicate that teachers should have access to health-related information during their CPD. The most popular topics of interest were those relating to physical aspects such as PRMDs, posture, and body awareness; this echoes findings from previous research by Redmond & Tiernan (2001). Respondents to the current study were also interested in learning about a range of psychological topics to promote their pupils' health, and also to address personal difficulties. Relatively few respondents reported an interest in learning about hearing, just as relatively few reported that they had accessed advice about hearing or reported discussing hearing with pupils. In one of the only research studies to evaluate the efficacy of providing health-related information to music educators (Laursen & Chesky, 2014) the most apparent changes among the pre-service brass teachers who participated were those relating to knowledge of hearing problems. That study only involved brass musicians – who were among the most likely to report hearing problems and advice for hearing problems among the current sample – therefore further research would be needed to investigate whether such profound effects would be witnessed with musicians who play different instruments.

Most respondents to the current study would prefer to learn from information on the internet, in books, and at one-off CPD events. Research conducted 15 years ago with American piano teachers (Redmond & Tiernan, 2001) indicated that respondents would prefer to learn from newsletters, CPD courses and the internet. Internet-use has increased dramatically since 2001 therefore nomination of the internet as the most popular learning method in the current study is likely to be related to historical differences. However, most respondents to the current study reported that they did not regularly access health information online. If the internet is a preferred learning method it is not clear why respondents are not already accessing resources; it could be that they

do not know where to look, which sources to trust, or the available sources may not be perceived as applicable to their teaching environment. Organisations such as Help Musicians UK and BAPAM already provide internet access to resources aimed at promoting musicians' health. Future research should investigate why teachers do not appear to be engaging with those resources regularly, and how the content, awareness of resources and access to them could be improved, if necessary.

Despite many respondents reporting that they had learned about health promotion from books, and nominating books as a preferred source of learning, very few were aware of recently published books that contain relevant health-related information. Even though the choice of books was informed by a pilot study with teachers and HCPs it is possible that books that were listed on the survey were not those most commonly used by teachers. However, respondents were given the option to nominate other books that they refer to and those referred to most often were *The Inner Game of Tennis* (Gallwey, 1975) and *The Inner Game of Music* (Green & Gallwey, 1986). These books are now over two decades old and, given that the majority of PAM research has taken place in the last twenty years, do not contain up-to-date information about health promotion. In addition, over half of the respondents reported that they were interested in learning about health by reading peer-reviewed articles, yet very few were reading or subscribing to such publications at the time of the study. These results suggest that efforts to broaden the appeal and reach of PAM and performance science research could be successful. Research that will contribute to the development of resources that are practical, rigorous and accessible to teachers will be invaluable.

American Music Teacher is the official journal of the Music Teachers National Association; between August 2014 and July 2015 a series of 12 articles focusing on the topic of musician wellness were released in six issues of this publication (Ackermann, 2015; Amlani & Chesky, 2014-15; Berenson, 2014; Chesky & Amlani, 2014-15; Chong, 2015; Cornett, 2015; Dawson, 2015; Horvath, 2014; Manchester, 2014; McAllister, 2015; Nagel, 2015; Palac, 2015; Wristen, 2014) and a supplementary article by Barbara Lister-Sink was included in the February-March (2015) issue. These articles were authored by music educators and HCPs who are widely recognised in the field of PAM, and included a range of information about physical, psychological, and auditory health alongside practical recommendations for instrumental/vocal music teachers. The articles drew on up-to-date PAM research and presented it in a manner that was intended to be accessible

and practical for instrumental and vocal teachers. Many of the 'take-home' messages contained within the articles mirror the themes identified during the course of the current research (see Appendix X for a list of key quotations). It would be of value to investigate the extent to which members of MTNA engaged with these resources and employed the information in practice.

Results of the book evaluation study reported in Section 6.2.1 indicate that teachers who chose to participate enjoyed reading the books they reviewed and, despite the inherent challenges of finding time to critically engage with the books, reported that they found the reading thought-provoking and had, in many cases, incorporated relevant materials into their lessons. Criticism is often levelled at research that allows participants to volunteer; however, if the aim of the study is to inspire change then those who choose to participate are likely to be the ones whose involvement will be crucial to achieving said reform (see Goodson, 1992). Starting with teachers who are interested and keen to learn may lead to the development of a successful health promotion programme that is inspiring to participate in, and more likely to lead to further changes in the profession. There were marked differences between book reviews submitted by instrumental/vocal teachers and those from HCPs; these differences suggest that it is imperative to involve teachers in the design and dissemination of resources as their opinions differ from those who have traditionally written such resources. Brandfonbrener (2003) noted that books written by musicians for musicians can sometimes blur professional boundaries when authors offer advice that is not from their field of expertise; she suggested that collaboration between musicians and HCPs could address this difficulty. In this study some participants were particularly intrigued by the co-authorship of one of the books (between a musician and HCP) and in some cases explicitly suggested that future resources should involve collaboration between musicians and HCPs.

Teachers and HCPs who participated in the book study gave feedback regarding their experiences of reading the books in terms of what they valued; this information would be valuable to those intending to develop health-education resources relevant to instrumental/vocal teaching. In particular, results indicate that a series of books that progress from basic information in one book through to more detailed concepts in others may be received better than one book that attempts to address everything from a basic to complex level, especially considering participants generally preferred smaller books that could be carried easily. Furthermore, results reported in Sections 3.2 and 6.2.1

indicate that resources for teachers of classical music could concentrate on classical-related issues but resources covering contemporary, jazz, folk and world music could benefit from combining information about those genres in a single resource. In addition, respondents in this research were unlikely to be teaching pupils across all age groups so resources could focus on different pupil age groups. Dance UK's resource for teachers (Gibson & Bramley, 2002) provides key facts about the physical and psychological development of children and young people, implications for dancing, and recommendations for safe practice. A comparable resource for music teachers does not yet exist, but would be invaluable in addressing many of the issues raised in this research.

Approximately a quarter of survey respondents reported accessing information via training; usually as part of their CPD or during a degree and rarely as part of formal teacher training. Additionally, nearly two-third of respondents said they would like to learn by attending a one-off event and a third would be interested in attending series of lectures or undertaking an accredited qualification. Very few researchers have provided access to health-related information to investigate the effects of that information on teachers' beliefs and behaviours. Two exceptions can be found in articles published by Hildebrandt and Nübling (2004) and Laursen and Chesky (2014), both of which have been discussed previously (See Section 2.1.5 and 6.3.3). Methods courses such as the one reported by Laursen and Chesky (2014) are rare in the UK and guidelines such as those provided by the NASM do not currently exist. Many respondents to the current study did not appear to be teaching in an institution that could provide rigorous and reliable training similar to the series of lectures provided by Hildebrandt and Nübling (2004), and many indicated that they would prefer a one-off event rather than a series of lectures. Further research was needed to investigate the provision of health-related information for instrumental/vocal teachers in the UK.

Results of the CPD event study granted insight into how teachers and HCPs perceived the event, what they valued and enjoyed, and some of the effects of attendance at the event. Feedback about the content and structure of event information could inform the organisation of similar events in future. Most delegates were charged to attend the event to mimic provision of CPD in 'the real world'; delegates were willing to pay to attend the event with many indicating that they would have paid up to double the amount charged. The inclusion of research at the event was generally received positively and could present a valuable avenue to explore in future in terms of accessing funding to conduct applied

research that seeks to address health promotion for musicians. In particular, the inter-professional nature of the event was regarded positively by many delegates and therefore provides a potential model for advancing collaboration within the fields of music education and PAM. Results reported in Section 6.2.2 indicate that attendance at the event did not negatively affect respondents' awareness and knowledge of health promotion and in fact resulted in a perceived increase in knowledge of a range of topics. The increase in awareness and knowledge of topics that were not covered at the event may indicate that delegates were generally inspired to engage further with a range of information after the event regardless of whether it had been covered in detail at the event. The inclusion of 'control topics' on the pre- and post-event surveys made it possible to draw these preliminary comparisons but future research should include a control group of respondents not taking part in the proposed intervention to investigate whether changes were attributable to information provided. It is not possible to discern from this study whether delegates' pupils perceived any change in their teachers' behaviours; the findings of research by Britsch (2005) and Hildebrandt and Nübling (2004) indicate that pupils do not necessarily perceive changes to teachers' behaviours even when the teachers report that they have made changes. Future research is needed to investigate the effects of teachers engaging with health-promoting resources from the perspectives of teachers and their pupils.

6.3.5 Summary of chapter

In this chapter I explored participants' theoretical interest in accessing health-related information and their suggestions regarding when such information should be available, what it should contain, and how they would like to access it. Furthermore, the results of two studies that explored participants' practical involvement with health-related information were presented. In the next chapter I will present a summary of key findings from all of the studies undertaken as part of this research, a critical analysis of methodological limitations and how these might be resolved in future research, and five key implications of the research with suggestions for future directions.

Chapter 7: General Discussion

This thesis addresses health promotion for musicians in the context of instrumental and vocal lessons by focusing on the perspectives of instrumental/vocal teachers. A review of literature relating to performing arts medicine and music education demonstrated that, although teachers are identified as key stakeholders in musical environments and health promotion, very little research had investigated their health-promoting experiences, beliefs and behaviours (see Chapter 2). A survey study, interview study, and two intervention studies were designed to address four questions:

1. What were the characteristics of those delivering instrumental and vocal teaching in the UK in terms of their demographic characteristics, educational pathways, and performance-related health?
2. To what extent did teachers report promoting their pupils' health? How did they report doing so?
3. What influenced teachers' health-promoting behaviours?
4. To what extent would teachers like to access health-related information so as to promote their own and their pupils' health more effectively? What would they like to learn and how?

Methods, key results, and discussions of results in relation to previous literature were presented in Chapters 3-6 in response to the questions shown above. This final chapter presents a summary of key findings in relation to each question (Section 7.1) followed by a consideration of methodological limitations and suggestions for addressing these (Section 7.2). To conclude, five main implications of the research are offered in relation to previous literature with recommendations for future directions (Section 7.3).

7.1 Key findings

7.1.1 First research question

What were the characteristics of those delivering instrumental and vocal teaching in the UK in terms of their demographic characteristics, educational pathways, and performance-related health?

Most survey respondents were middle-aged, female, and/or self-identified as instrumental/vocal teachers. They were likely to be teaching more than one age group, although almost always 'neighbouring' age groups. The sample mainly comprised keyboard, vocal, bowed strings or woodwind teachers. Most respondents held a school music qualification, Grade 5 theory certificate, at least one Grade 8 performance

certificate, and a bachelor's degree. Among this sample, bachelor's degrees were more commonly awarded by universities and postgraduate degrees by conservatoires. Most respondents' highest qualification according to the Regulated Qualifications Framework was an academic qualification, usually their bachelor's degree. Very few respondents, especially those with less than 10 years' experience, had taken an accredited teaching qualification relevant to instrumental/vocal teaching; however, two fifths reported attendance at CPD courses.

Most teachers in this study reported personal experience of at least one PRP and in many cases had not received advice or treatment to help them manage those problems. More respondents reported experiencing physical symptoms compared with the number that reported MPA or hearing problems. Similarly, a larger proportion reported receiving advice and/or treatment for physical symptoms compared with the proportion who reported receiving advice and/or treatment for MPA or hearing problems. The most common sources of advice and/or treatment were doctors, physiotherapists, osteopaths, body awareness specialists, and counsellors. There were significant associations between respondents' demographic characteristics, educational pathways, and experience of PRPs. In particular, respondents' sex and graduate status were associated with most other demographic and educational factors, although not with each other. Reporting hearing problems was associated with respondents' sex, genre of activities, and teaching instrument. Reporting physical symptoms was associated with teaching instrument, pupil age group, and performing activities. Finally, reporting MPA was associated with professional identity, graduate status, and performing activities. This research indicates that instrumental/vocal teachers' experiences and environments are highly complex with many confounding factors that need to be explored both in isolation, and holistically.

7.1.2 Second research question

To what extent did teachers report promoting their pupils' health? How did they report doing so?

Survey respondents reported that they believe instrumental/vocal teachers bear at least partial responsibility for protecting pupils' health, and interview participants regarded teachers as well-placed advocates of health promotion. Very few survey respondents had not encountered a pupil with a PRP. Four categories of response to pupils' health concerns were identified: listening to pupils, providing advice where possible, and reporting or referring pupils if necessary. These responses fit the models of primary and

secondary prevention (see Section 2.1.5). By their own report, most survey respondents spent a considerable amount of time helping pupils adapt their instrument and/or environment. They also reported discussing a range of general and performance-related topics with pupils to help them avoid PRPs and prepare for performance. Physical aspects such as posture, technique, and tension/relaxation were mentioned consistently and references to psychological factors such as anxiety and confidence were also prominent; references to hearing-related factors were less common.

Respondents indicated that their responsibility for pupils' health and well-being should be shared with pupils, pupils' families and educational institutions, and HCPs. Many respondents suggested that teachers are responsible for giving the best possible advice, and pupils or families are responsible for following that advice. The pupil's educational institution and HCPs were rarely perceived as bearing responsibility for pupils who are not experiencing problems; however, many respondents reported that if a teacher has concerns about a pupil's health they should discuss them with the pupil, and/or pass on their concerns to the family of younger pupils, a welfare representative in institutions, and/or HCPs. Referrals were most commonly made to doctors, physiotherapists, osteopaths, body awareness specialists, and counsellors. Inter-professional interactions between musicians, organisations, institutions, and HCPs were rarely reported. The concept of inter-professional health promotion teams was highly regarded by interview participants; however, they perceived many difficulties associated with implementing such an approach for most UK musicians. Current professional interactions were generally reported as occurring in a multi-professional manner with teachers referring or reporting pupils to representatives of other disciplines and having little direct contact with those representatives. Many respondents reported that they act, or are expected to act, in a trans-professional manner to address a range of situations presented in instrumental/vocal lessons.

7.1.3 Third research question

What influenced teachers' health-promoting behaviours?

Respondents' health-promoting behaviours appeared, in many cases, to be underpinned by a fundamental belief that teachers have a responsibility to safeguard, and preferably enhance, pupils' health and well-being. Respondents' personal experiences with PRPs reportedly influenced their awareness of PRPs, health-related beliefs and behaviours.

Furthermore, in many cases reporting PRPs was associated with particular survey responses; in particular, those who had experienced PRPs were more likely to report being vigilant for pupils developing PRPs, and also discussing how to avoid problems similar to those they had experienced – often with reference to personal experiences. In addition, respondents reported that their perceived level of responsibility, chosen behaviours, and nominated health-promoting allies were influenced by the type of problem the pupil manifested, the pupil's age and ability, and the quality of relationship between teacher and pupil. Responses to health-related questions were significantly associated with respondents' demographic characteristics and educational pathways, in particular their sex and teaching instrument. The web of associated variables illustrated in Section 5.1.3 indicates the complexity of health-promoting beliefs and behaviours in the context of instrumental/vocal teaching; especially given the underlying associations between demographic characteristics, educational pathways, and experience of PRPs.

Respondents' educational pathways affected the information they were exposed to and were associated with some of their health-related beliefs and behaviours. Health-related knowledge was predominantly obtained from experience (as a learner, teacher, performer, and/or musician affected by PRPs) and from interaction with colleagues, friends, family, and teachers. About a third of respondents reported that they had gained health-related knowledge from reading but very few had heard of the selection of relevant books included in the survey study or read peer-reviewed publications. Most respondents did not regularly retrieve health-related information online, and when they did it was generally accessed through search engines rather than trusted websites. Most respondents had gained at least a bachelor's degree but less than a tenth reported that they had gained health-related information during a degree; almost all of those who reported where information had been gained had attended a conservatoire rather than a university. A small proportion of respondents had gained pedagogically-orientated qualifications but very few reported that health-related information had been included in those qualifications. Approximately two-fifths of survey respondents had attended CPD courses; however, just over a tenth reported that they had received health-related information at CPD sessions. Respondents were aware of a variety of organisations and societies but rarely reported that they had received health-related information from those organisations. Respondents' reported sources of health-related knowledge were associated with their sex, teaching instrument and/or performing activities.

7.1.4 Fourth research question

To what extent would teachers like to access health-related information so as to promote their own and their pupils' health more effectively? What would they like to learn and how?

Most respondents expressed a moderate to great interest in learning more about health promotion, primarily for their pupils' benefit rather than their own. They were interested in a range of topics mainly relating to physical and psychological health; few expressed a spontaneous interest in learning about hearing. Respondents indicated that health information should be included in musicians' education throughout development (i.e. from novice to advanced musician), during tertiary level education, and/or during training as an instrumental/vocal teacher. Most respondents stated that they would prefer to learn from the internet, books, or a one-off event. Fifty-four delegates attended a CPD event entitled *Promoting Health and Well-Being in Music Lessons* and 34 participants read and reviewed health-related resources as part of a book evaluation study. The results of these intervention studies indicate that those who engaged with health-related resources generally believed them to be worthwhile and useful in the context of instrumental/vocal teaching. Participants in the intervention studies made recommendations for how to improve the quality and relevance of health-related resources and how to facilitate access to them in future. There were differences between healthcare professionals' and teachers' perceptions of health-related books in the evaluation study but the inter-professional nature of the CPD event was valued by delegates.

7.2 Methodological limitations and further research

Methodological limitations identified during the course of this project are summarised below with recommendations for addressing them in future research. This project was somewhat over-ambitious as a great deal of data remains to be analysed, interpreted, and reported: this includes interview and intervention study data and sections of survey findings that were omitted due to limited space. Recommendations for improving survey study questions can be found in Appendix Y; these changes address difficulties that respondents expressed in relation to some questions, difficulties associated with analysing data, and recommendations for better answer choices. In particular, reducing the number of answer categories would make it easier to conduct analyses between sub-populations; analysis of results from the version used in the current study have enabled the researcher to provide recommendations for where categories could be collapsed.

Thematic analysis of open-ended responses to health-related questions has also resulted in identification of categories that could be explored in more detail: e.g. discussion topics were identified that could be used as multiple-choice options (see Appendix Y).

Although this research included a large number of respondents it would be of value to explore the topic of health-promotion with an even more representative group of instrumental/vocal teachers. To recruit a larger sample future researchers could seek support from organisations identified by respondents, in particular: university music departments and conservatoires; examination boards such as the ABRSM; general music organisations such as the MU and ISM; musicians' health charities such as Help Musicians UK and BAPAM; the Music Education Council and Arts Council England; and instrument-specific organisations such as the BVA, EPTA and ESTA. To recruit a broader sample, researchers should seek support from musicians embedded in hard-to-reach populations; e.g. those not engaged in classical music, those who teach brass/plucked strings/percussion instruments, and those who do not perform regularly. The interview study included teachers whose characteristics echoed those of survey respondents, but there were no interviewees who taught at conservatoires. Most health promotion programmes in the UK are currently taking place at conservatoires therefore it is likely that the experiences of conservatoire teachers will be different to those working elsewhere. Future interview research should recruit teachers who work in a range of environments; it would be preferable to have two or three representatives from each environment to compare responses. It would also be of value to compare the results of the current research with similar research conducted in other countries.

Future research could investigate the concept of collaborative health promotion for musicians in a number of ways: i) by interviewing teachers without explicitly introducing the concept of collaborative health promotion to see whether similar topics are raised, ii) conducting focus groups with instrumental/vocal teachers to see how their opinions about the subject develop in discussion with colleagues, and iii) conducting inter-professional focus groups with music education stakeholders and HCPs to explore their thoughts on this topic. Focus groups were conducted at the CPD event to discuss the concept of collaborative health promotion for musicians (see Appendix V for discussion topics). Not all groups were inter-professional, several could not be recorded, and most were conducted by volunteer chairs rather than the researcher but analysis of these preliminary discussion groups could guide future research. The terms 'inter-professional',

‘multi-professional’, and ‘trans-professional’ (see Taylor & McEwan, 2012) were not explicitly included in any stages of this research; future research could introduce these terms, derived from the sports coaching literature, to instrumental/vocal teachers to investigate whether they agree with the definitions.

It was not possible to investigate teachers’ health-promoting strategies in detail, or evaluate their efficacy, based on a self-report study. It was also difficult to explore physical concepts such as posture and technique in this manner. Further research could investigate teachers’ health-promoting behaviours using observational studies, interviews with teachers and pupils (following the model by Gaunt, 2011), and intervention studies. Similarly, respondents’ self-reported changes in behaviour and knowledge in response to attendance at the CPD event are not possible to evaluate objectively, only comparatively. The results of the CPD study should be investigated further using experimental methods that include standardised tests and control groups before firm conclusions are drawn regarding the efficacy of CPD events as knowledge exchange platforms.

There were high costs associated with conducting the intervention studies in terms of resource costs, investment of time from the researcher, and participants’ time spent reading books and attending the event. In the case of the book study these financial and time-based costs meant that it was not possible to recruit a large sample that included equal numbers of reviewers for each book; nor was it possible to include all books that may have been relevant. The CPD event study could not have been conducted without the support of the researcher’s host institution and other professional contacts. With only one exception comments relating to inclusion of research at the event were neutral or positive and respondents’ feedback on the book evaluation also indicated that they were not negatively affected by the research elements of their engagement with the resources. Future research of this nature may be easier to conduct within a contained geographical location to expedite access to resources, allow subsequent discussion of resources and strategies for applying material in lessons, and establish collaborative platforms for developing new resources. In particular, this research could take place as part of professional development within an institution or organisation, or as part of a funded research project investigating health promotion for musicians in more detail.

7.3 Implications of key findings

7.3.1 First implication

Teachers consider themselves to be allies of prevention therefore PAM specialists should work more closely with them in future.

PAM specialists advocate the inclusion of health promotion in music education (Chesky et al., 2006; Spahn, 2011; Voelcker-Rehage, 2012) and instrumental/vocal teachers have therefore been nominated as ‘allies of prevention’ (Brandfonbrener, 2002; Guptill, 2012; Palac, 2008; Ranelli et al., 2011; Spaulding, 1988; Zaza, 1993). Published PAM literature contained a large number of prescriptive references to instrumental/vocal teachers’ potential roles in health promotion and very little description of their current health-related beliefs, behaviours, and experiences. To a large extent, the teachers who participated in this research agreed with the suggestion that instrumental/vocal teachers are ideally placed to act as health promotion advocates. Most survey respondents considered teachers to bear at least some responsibility for pupils’ health and well-being, and many interviewees reported that the proposed inclusion of health promotion in music education would only be possible with the help of instrumental/vocal teachers. Furthermore, teachers chose to engage with health-related resources as part of this research showing their willingness to enhance the knowledge and capabilities that will enable them to act effectively as health promotion advocates. The implications of this research are that PAM researchers’ and specialists’ nomination of instrumental/vocal teachers as potential allies of prevention is valid and appropriate according to a large sample of UK teachers. Further research that investigates health promotion in the context of instrumental/vocal teaching should actively involve teachers.

7.3.2 Second implication

Teachers are already engaging in primary prevention therefore research is needed to investigate their behaviours in more detail before attempting to implement health promotion initiatives.

Further to nominating teachers as potential health promotion advocates many PAM specialists have suggested that instrumental/vocal teachers could engage in primary prevention of PRPs by mitigating pupils’ exposure to a range of risk factors (see Section 2.1.5). The limited amount of previous research investigating health promotion in the context of instrumental/vocal teaching has focused on teachers’ awareness of PRPs, knowledge of risk factors for PRPs, and current strategies for addressing these factors

(Barrowcliffe, 1999; Brandfonbrener, 1989; 1989-90; Britsch, 2005; McKechnie & Jacobs, 2011; Quarrier, 1995; Redmond & Tiernan, 2001; Rogers, 1999). Despite cultural differences and the large span of time from the earliest studies conducted 25 years ago findings from the current research generally support these earlier studies. In the current study teachers most commonly reported addressing physical factors (in particular, posture and technique) followed by psychological factors (in particular, anxiety/confidence and performance preparation) whilst dealing with hearing-related factors was not mentioned by many respondents. Some respondents also reported providing advice on non-performance-related factors including home/school life and overall well-being and fitness. Many of the suggested strategies for addressing physical and psychological risk factors echoed recommendations from PAM specialists; however, there were instrument-specific differences and more general divisions regarding whether certain factors should be addressed, and when or how they should be addressed. Further research is needed to address instrumental/vocal teachers' existing health-promoting strategies and also professional boundaries regarding the aspects of a pupils' health and well-being for which teachers should provide advice. This could be achieved by conducting observational research with teachers to investigate their primary prevention strategies in situ, and discussing those strategies afterwards in individual interviews and focus groups with teachers and other stakeholders in music education. Once there is a better understanding of the current situation it will be easier to design and implement health promotion programmes that extend and enhance teachers' current activities. Attempting to implement health promotion programmes without first gathering such knowledge may result in initiatives that are inappropriate and irrelevant, neither respecting teachers' current behaviours nor addressing their requirements.

7.3.3 Third implication

Teachers are already engaging in secondary prevention but more research is needed to explore the current situation, establish professional boundaries, and identify barriers to change.

Secondary prevention of PRPs involves early identification of signs and symptoms that indicate the presence of a problem so that the problem can be addressed before it becomes more serious. Research indicates that instrumental/vocal teachers are likely to notice, or be told about, the signs and symptoms of conditions that may or may not be linked to performance (Atkins, 2013; Gembris & Ebinger, 2015; Horvath, 2008; Kwak et

al., 2014; Petty, 2012; Williamon & Thompson, 2006; Wristen, 2013). The complex natures of conditions that affect musicians and other performing artists have led to the inclusion of many different disciplines in the treatment and management of PRPs (see Section 2.1.3). A few researchers have briefly explored teachers' referral pathways (Barrowcliffe, 1999; Gembris & Ebinger, 2015; Redmond & Tiernan, 2001; Rogers, 1999) but not in detail or with discussion of the rationale behind advising or referring pupils. Those who have published articles about professional boundaries in relation to health promotion generally draw their recommendations from professional experience rather than research (e.g. Frederickson, 2002; LaPine, 2008; Palac, 2008; Potter, 2012). Jørgensen (2014) suggested that it would be sensible to consider teachers, pupils and institutions to be jointly responsible for pupils' general development but conceded that there are 'grey zones' where responsibility is unclear.

Teachers in the current research nominated themselves, pupils, pupils' families and institutions, and HCPs as those they believe share responsibility for promoting pupils' health; they also explored the roles of these groups and relationships between them. Teachers and pupils (or the family of younger pupils) were regarded as the centres of health-promoting clusters; HCPs were not generally considered to be responsible for pupils who did not have problems, nor was HCPs' involvement advocated until a problem had manifested. Inter-professional collaboration between those involved in health promotion may be advocated in theory – and it was viewed as an 'ideal scenario' by interviewees in this research – but results indicate that it is not currently applied in practice and participants identified barriers that would need to be overcome before it could be implemented effectively. Respondents most commonly reported engaging in linear multi-professional referrals or acting trans-professionally when they perceived a problem as being within their capabilities to resolve or were not able to access additional support. This research has identified a complex set of variables that influenced teachers' decisions to engage in primary or secondary prevention; discussing more detailed case studies with teachers and other stakeholders could aid exploration of these strategies and contribute to the establishment of guidelines regarding professional boundaries. Approaches that are perceived as ideal in theory may not be immediately possible in practice; this research has provided information that can begin to inform the development of health promotion initiatives that are realistic and achievable.

7.3.4 Fourth implication

Teachers' health-related beliefs and behaviours are influenced by many factors that should be explored further.

Very little research has investigated the health-related beliefs, behaviours and experiences of instrumental/vocal teachers and previous research in this environment focuses on teachers' actions, rather than the motivation for their actions (see Section 2.1.5). Research has shown that music pupils have complex relationships with their teachers, which are often influential in terms of their musical development and career trajectory (Creech & Hallam, 2011; Davidson et al., 1988; Gaunt et al., 2012; Welch et al., 2010). Researchers have suggested that teachers could act as healthy role models for pupils (e.g. Chesky, 2008; Patston, 2014; Trollinger, 2007) and two studies indicated that vocal teachers may believe they bear a responsibility to care for pupils' health and be aware of information that equips them to do so (Latukeyu & Verenikina, 2011; Scherer et al., 1994). It has been suggested that teachers should engage in health-promoting behaviours both to prevent problems and enhance performance (see Section 2.1.5). However, researchers have not previously investigated instrumental/vocal teachers' motivation for engaging in health-promoting behaviours. Results of the current research indicate that teachers consider themselves to be partially responsible for pupils for a variety of reasons including a perceived duty of care, their relationship with pupils and ability to act as a role model, and a desire to prevent problems and/or enhance performance. These results support suggestions made in PAM and music education literature. Further to this, respondents' health-promoting beliefs and resultant behaviours were attributed to, and in some cases statistically significantly associated with, their personal experiences of PRPs, demographic characteristics, and educational pathways. Therefore, further research is needed to investigate instrumental/vocal teachers' lives to understand their health-related teaching practices further; this supports Goodson's assertion that it is critical to know about 'the person the teacher is' to understand and, if necessary, influence their behaviours (Goodson, 1981).

Future research should focus firstly on teachers' personal experiences of PRPs. Zaza (1993) nominated both teachers and musicians affected by PRPs as logical health promotion advocates; the teachers who participated in this research were, in many cases, teachers *and* affected musicians. Helping instrumental/vocal teachers to address their own PRPs may have the compound benefit of enabling them to help their pupils, provided

that the information they have access to is appropriate and they are aware of the need for treatment advice to come from a qualified professional. The results of the current research indicate that factors associated with reporting MPA were also associated with teaching younger pupils and reporting physical symptoms was directly associated with teaching younger pupils. PAM researchers advocate the inclusion of health promotion as early as possible in a musician's training (see Section 2.1.5); if the associations between pupil age and reporting PRPs mean that those who teach younger pupils are more likely to experience problems then helping them to address their own health may enhance the possibility of building health-promoting behaviours into pupils' lifelong musical habits. Research investigating instrumental/vocal teachers' health could involve the use of standardised and clinical measures applied with the aid of qualified HCPs in addition to reporting teachers' subjective experiences of their health and the care that they receive. Such research could be carried out with the help of charities such as Help Musicians UK and BAPAM as well as with private HCPs and those involved in the NHS.

Secondly, research should investigate which demographic characteristics most strongly predict teachers' engagement with health promotion. In particular, there were differences between those who taught different instruments; exploration of what motivated those who do undertake health-promoting behaviours may allow for more successful engagement with those who do not. Traditionally, instruments from different 'families' are taught in separate schools, which may involve very different traditions of practice. There will always be the need for instrument-specific advice, owing to the different mechanisms involved in producing musical sounds, but sharing health-related best practice between schools may be of benefit to all, particularly in relation to non-instrument-specific problems such as MPA and hearing. Exploration of health-promoting beliefs and behaviours with those who teach more than one instrument may provide further information as to whether health-related behaviours are related to instrument. Respondents reported transferring knowledge from outside music and some advocated communication with representatives of other performing disciplines, as suggested by previous researchers (Gould 2002; Manchester, 2011; Potter, 2012). Ford (2013) conducted an intervention study with acting and music students that affected both sets of students' concepts of preparation, audience and performance; similar inter-disciplinary research may result in reciprocal illumination on health-related topics such as performance anxiety, preparing for performance, and coping strategies.

Instrumental/vocal tuition has been identified as a central part of UK music education (Atkins, 2013; Gaunt et al., 2012; Welch et al., 2010). Findings of the current research indicate that health promotion initiatives should also focus on this environment as most respondents had received lessons themselves, been influenced by those experiences, and believed it would be appropriate to include health promotion in lessons. Attendance at a tertiary level institution was common and most respondents believed it would be appropriate to include health promotion at those institutions; these institutions should continue to serve as education platforms. However, initiatives in PAM and music education have focused almost exclusively on conservatoires as opposed to universities (for example the Musical Impact project and Henley Recommendations in 2011). Over half of the teachers who participated in the current research were educated at a university; therefore it is imperative that health-related information is also made available to university graduates and that their contribution to the workforce is not underestimated. Instrumental/vocal tuition at any level, rather obviously, depends on instrumental/vocal teachers; therefore health promotion initiatives should be designed and implemented with input from those teachers, as discussed below.

7.3.5 Fifth implication

Teachers are interested in learning more about health promotion therefore the development of health-related resources is justified; this would be best achieved by working collaboratively with teachers.

Yardley and Bishop (2010) state that research should have real importance in terms of advancing theoretical understanding or for practical purposes. The results of PAM and performance science research are starting to be applied in practice, predominantly at tertiary level institutions; evaluation of such programmes indicate that they are well received and have positive effects on health and well-being (Clark & Williamon, 2011; Martín López & Martinez, 2013; Norton & Greasley, 2014; Spahn et al., 2014; Williamon et al., 2014; Zander et al., 2010). Only one published article has evaluated the effects of providing instrumental/vocal teachers with access to health-related information (Hildebrandt & Nübling, 2004); participants reported that their teaching style had changed, although their pupils did not perceive the same level of change, and the researchers tentatively concluded that it was a starting point for further investigation and development. The findings of the current research indicate that, to a large extent, UK instrumental/vocal teachers are interested in learning more about health promotion and

believe it would be appropriate and effective to include health-related information in teachers' professional development. These findings echo earlier responses from American teachers surveyed by Barrowcliffe (1999) and Redmond and Tiernan (2001). That the provision of two opportunities for instrumental/vocal teachers to access health-related information proved popular demonstrated that respondents' theoretical interest expressed on the survey was borne out in practice for quite a large group of teachers.

Sources of professional development for instrumental/vocal teachers were identified in this research; however, according to respondents, health-related information is rarely included in CPD courses, disseminated by organisations, or accessed by reading books or using the internet. Engaging teachers in research to develop and disseminate resources that are appropriate, practical and applicable to instrumental/vocal teaching is more likely to result in resources that address the requirements of those teachers. Whilst it may not be possible to provide inter-professional health promotion teams to all musicians, knowledge exchange platforms such as CPD events could allow inter-professional exchanges to occur and over time these interactions may lead to the development of health promoting networks. Interviewees identified a number of difficulties associated with the introduction or advancement of collaborative health promotion, many of which were also identified by Atkins (2013). These potential barriers need to be explored and practical solutions provided if health promotion is to advance in this manner; this could be done by conducting focus groups with potential funders, stakeholders, and musicians to generate solutions. Participation in performing activities may alleviate the isolation that many teachers experience, facilitate the sharing of information between colleagues, and increase awareness of sources of further information. PAM specialists should work with teachers, conductors, and ensemble managers to ensure that shared information is accurate and appropriate.

7.4 Future directions

In Section 1.2 I suggested that the research reported in this thesis could be of value to a range of musicians and PAM specialists, including those who identify as 'practitioners' and those who identify as 'researchers'; to reach such a broad audience it will be necessary to publish findings in a number of ways. During my PhD I have attended and presented at academic conferences (see pages iii and iv for more details) and I intend to continue presenting at conferences and also submit a number of articles for publication in peer-reviewed journals such as *Arts and Humanities in Higher Education*, *Medical*

Problems of Performing Artists, International Journal of Music Education, British Journal of Music Education, Psychology of Music, and Musicæ Scientiæ. For the last three years I have also maintained a professional network within music education and presented at conferences aimed at music education practitioners. The results of my research indicate that instrumental and vocal teachers are more likely to access information through their professional networks and via an organisation or CPD event therefore I intend to make information about my research available through those avenues.

This research could act as the first cycle of an action research project addressing health promotion with instrumental/vocal teachers and other stakeholders. Kagan, Burton and Siddiquee (2010) identify the processes involved in action research:

- An idea that is socially produced within a particular context. This idea includes a shared vision of the goal(s) of positive social change.
- A plan that is devised collaboratively with participation from stakeholders.
- An act that is carried out collaboratively with stakeholders.
- Evaluation that is collaborative and makes creative use of methods.
- Reflection during which stakeholders jointly learn, understand and further plan, act and evaluate.

The idea that instrumental/vocal teachers are potential advocates of health promotion was identified during the initial stages of this project and research findings demonstrate that many teachers share a vision for improving the health-related information that is available to musicians. The researcher devised a plan to act upon this idea, with reference to material provided by participants, resulting in two intervention studies that were carried out collaboratively with input from various stakeholders. Evaluation of these studies and reflection on what has been learned could now form the basis for further planning and action that would address the shared concept of improving health promotion for musicians. The two CPD studies conducted as part of this project were embedded within a research framework and, in general, this was received positively by participants; this suggests that collaboration between researchers and practitioners may prove to be a viable and valuable means of progressing within the fields of music education and PAM. By embedding CPD resources and opportunities within a broader framework of research it may be possible to effect changes at a cultural, rather than individual, level.

The concept of 'prehension' (Tragesser, 1977) refers to situations where understanding may be incomplete but is not arbitrary and can therefore provide a basis

for action; this concept was cited by Somekh (2006) as a good premise for action researchers as decisions are often taken on the basis of *prehension* rather than *apprehension* of the situation. The results reported in this thesis will not confer a full apprehension of the factors involved in the prevention of PRPs, nor do they fully explain the complex situation regarding instrumental and vocal teachers' roles in health promotion. However, this thesis provides answers to questions that have not been asked before regarding UK instrumental and vocal teachers' current health-related beliefs and behaviours and their engagement with health promotion. Results reported in this thesis therefore provide deeper insights regarding current health promotion in UK instrumental and vocal lessons and a strong foundation for more informed action in the future.

7.5 Final remarks

This thesis has provided an original contribution to the fields of performing arts medicine and music education by examining health promotion from the perspectives of instrumental and vocal music teachers. Findings indicate that teachers are ideally placed to act as health promotion advocates and to a large extent are already engaging in primary and secondary prevention of performance-related problems. They are motivated to engage in health-promoting behaviours as a result of their perceived responsibility, genuine care for pupils' personal and musical development, personal experiences of performance-related problems, and various environments experienced during their own musical and professional development. There is a strong desire for health information to be available to musicians throughout their development, in particular during tertiary level education and as part of teachers' professional development. The results of this research are of relevance to musicians, individuals and organisations who teach musicians, musicians' families, other performing artists and healthcare professionals specialising in performing arts medicine. It is hoped that collaboration between these groups will contribute towards enhanced education and support for musicians, and ultimately a reduction in the number of musicians whose personal and professional lives are affected by performance-related problems; suggestions have been made as to how collaborations and projects could be developed. The importance of music in our society means that protecting musicians' health and well-being enables all members of society to access music and the benefits it can bring.

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Appendix A: Ethical approval certificates



This is to confirm that the application made by Naomi Norton to the Royal Northern College of Music Research Ethics Committee was APPROVED.

Project title: Health Education in Instrumental/Vocal Music Lessons: The Teacher's Perspective

Date approved: 8 April 2013

Signed:

Date: 8 April 2013

David F. Edwards



CERTIFICATE OF ETHICAL APPROVAL

This certificate confirms that the application made by Naomi Norton to the CUK Research Ethics Committee was APPROVED.

Project title: Health Education in Instrumental/Vocal Music Lessons: The Teacher's Perspective

Date approved: 29 April 2013

Signed:

Aaron Williamon

Date: 29/04/13

Prof. Aaron Williamon (Co-chair of CUK Research Ethics Committee)

Appendix B: Copy of the survey study

1. Introduction to the study

This study is part of a PhD project which is being carried out by Naomi Norton at the Royal Northern College of Music in Manchester, under the supervision of Professor Jane Ginsborg and Dr Alinka Greasley and with financial support from The Arts and Humanities Research Council.

Health education is of increasing concern to the musical world; Performing Arts Medicine is expanding as a medical and research field and the results of research are increasingly being applied throughout the performing arts disciplines. Instrumental/vocal teachers are arguably one of the most important groups of individuals involved in the education of the next generation of musicians, therefore their practices and views relating to health education are of paramount importance. This study therefore aims to explore instrumental and vocal teachers' perspectives regarding health education in music lessons. The survey will be split into the following sections:

Section 1: Introduction to the study (this section)

Section 2: Demographic information and involvement with music and teaching

Section 3: Experience of performance-related problems

Section 4: Health education in instrumental/vocal music lessons

Section 5: Health education and support for musicians and music educators

Section 6: Survey conclusion

There are no right or wrong answers to any of the questions; the researcher is interested in understanding instrumental and vocal teachers' perspectives regarding health education in music lessons so the more honest you are the greater the reliability of the research. It is hoped that the results of this research will have a positive impact on the provision of health education and support for future generations of musicians. All results will be kept completely confidential and data will be published anonymously.

Questions are mostly multiple or single choice but some questions encourage a more open-ended response; the survey is likely to take between 20 and 40 minutes dependent on the length of your answers to the open-ended questions. You are able to complete the survey in stages by saving your responses and returning to complete the survey later, although you will need to log onto the survey from the same electronic device.

Upon completion of the survey you will be asked if you would be willing to take part in further research and if you would like to be contacted with details of future training events or health education resources; in particular the researcher is organising a teacher training event to take place at the Royal Northern College of Music on Sunday 19th January 2014. There is also a space provided for you to leave any additional comments about the topics covered in this survey, although you are also welcome to email the researcher at **[insert email address]**.

PLEASE NOTE:

- You are able to move freely back and forth between pages, and change your answers but please use the Back/Next buttons at the bottom of each page rather than on your web browser (as it will say page expired and entered data will be lost).
- You are able to leave the survey and return to finish it later if you log on from the same computer.
- A * next to a question means that an answer is required to progress with the survey. If at any point you prefer not to answer an open-ended question marked with a * please write 'Prefer not to answer' in the text box provided.

1. Do you currently teach at least one instrumental and/or vocal music lesson per week within the United Kingdom? *

☐ Yes

☐ No: Thank you for your time, this survey is aimed at exploring the views of instrumental and vocal teachers who are currently teaching. If you would like to be involved in future surveys that may include the views of others involved with music education please email the researcher at [insert email address].

2. Do you consent to the information that you provide being used anonymously as part of this research? *

☐ Yes

3. Have you participated in either of the researcher's previous online surveys with instrumental/vocal music teachers? *

	No	Yes
Instrumental/vocal music teachers' experiences with health education (2012)		
Pilot study: health education resources for musicians (2013)		

2. Demographic information and involvement with music and teaching

This section of the survey contains questions regarding participants' demographic information (age, sex, location and relevant qualifications) and involvement with music and teaching. This information will aid the researcher in describing the final sample of participants and no information will be presented that links responses to a named individual.

4. What is your sex? *

☐ Male ☐ Female ☐ Prefer not to disclose

5. How old are you? (in years) *

6. Where do you currently teach music lessons? (tick all that apply) *

☐ England ☐ Scotland ☐ Wales ☐ Northern Ireland ☐ Outside the UK

7. From the list below please choose the option that most accurately describes your professional identity at the moment: *

- ☐ Instrumental/vocal teacher
- ☐ Classroom music teacher
- ☐ Musician who performs and teaches
- ☐ Teacher who also performs
- ☐ Performing musician who also teaches
- ☐ Student musician
- ☐ Non-music professional
- ☐ Other (Please Specify)

8. From the list below, please indicate which of the following musical genre(s) you are involved with for your musical activities (inc. teaching, performing, composing, conducting, researching, other, etc.):

NOTE: You may choose more than one genre if you are regularly engaged in musical activities that belong to different musical genres. *

- ☐ Classical
- ☐ Jazz
- ☐ Folk
- ☐ Contemporary
- ☐ World
- ☐ Other (Please Specify)

9. Which family/families do the instrument(s) that you play/sing belong to?

NOTE: This refers to any instrument(s) that you can play to a competent standard (i.e. achieved Grade 5 standard or above, in line with the criteria of recognised awarding bodies such as the ABRSM, RockschooL, Trinity College, London College of Music etc.). You may choose more than one answer. *

- ☐ Bowed strings
- ☐ Plucked strings
- ☐ Acoustic guitar
- ☐ Electric guitar
- ☐ Woodwind
- ☐ Brass
- ☐ Orchestral percussion
- ☐ Drum kit
- ☐ Solo tuned percussion
- ☐ Choral voice
- ☐ Solo voice
- ☐ Keyboard instruments
- ☐ Other (Please Specify)

10. Which family does your primary playing instrument/voice belong to?

NOTE: This refers to the instrument that you play most frequently at the moment therefore you can only choose one answer. *

- ☐ Bowed strings
- ☐ Plucked strings
- ☐ Acoustic guitar
- ☐ Electric guitar

- ☐ Woodwind
- ☐ Brass
- ☐ Orchestral percussion
- ☐ Drum kit
- ☐ Solo tuned percussion
- ☐ Choral voice
- ☐ Solo voice
- ☐ Keyboard instruments
- ☐ Other (Please Specify)

11. Which family does your primary teaching instrument/voice belong to?

NOTE: This refers to the instrument that you teach most frequently at the moment therefore you can only choose one answer. *

- ☐ Bowed strings
- ☐ Plucked strings
- ☐ Woodwind
- ☐ Brass
- ☐ Orchestral percussion
- ☐ Drum kit
- ☐ Solo tuned percussion
- ☐ Choral voice
- ☐ Solo voice
- ☐ Keyboard instruments
- ☐ Other (Please Specify)

12. How long have you been teaching? *

- ☐ Less than a year
- ☐ 1-2 years
- ☐ 3-4 years
- ☐ 5-10 years
- ☐ 11-20 years
- ☐ 21-30 years
- ☐ 31-40 years
- ☐ More than 40 years
- ☐ Other (Please Specify)

13. Please indicate whether or not you currently teach the following age groups: *

	No	Yes
Nursery age (4 years or under)		
Primary School age (between 5 and 10 years old)		
Secondary School age (between 11 and 16 years old)		
Sixth Form/College age (17 or 18 years old)		
Young Adult (19-25 years old)		
Adult (26 years or older)		

14. Please indicate which of the following musical learning environment(s) you have experienced during your personal musical training:

NOTE: This refers to learning environments that you have experienced for at least 3 months. This could relate to any instrument(s) that you currently play or have played for at least 3 months.

For example: I was taught to play the violin and piano in one-to-one lessons, was a member of a local youth music centre, did an undergraduate and postgraduate degree in music at a University and am now studying towards a postgraduate degree at a music college. I also play with a local amateur orchestra and perform professionally with a string quartet at weddings and other functions. *

- ☐ Self-taught
- ☐ One-to-one lessons
- ☐ Group lessons
- ☐ Membership of a youth music centre (aka trust, school, service, hub)
- ☐ Membership of a junior conservatoire
- ☐ Undergraduate musical training at a university
- ☐ Postgraduate musical training at a university
- ☐ Undergraduate musical training at a music college
- ☐ Postgraduate musical training at a music college
- ☐ Rehearsal and/or performance as a member of an amateur or training ensemble/band/group
- ☐ Rehearsal and/or performance as a soloist with an amateur or training ensemble/band/group
- ☐ Rehearsal and/or performance as a member a professional ensemble/band/group
- ☐ Rehearsal and/or performance as a soloist with a professional ensemble/band/group
- ☐ Other (Please Specify)

15. Please list below any qualifications that you hold, which you believe are relevant to your instrumental/vocal teaching activities.

Examples of qualifications are given either next to the response boxes or in the bullet points below. RAB stands for Recognised Awarding Body, which could include ABRSM, Trinity College, RockschooL, London College of Music or any other organisation that

delivers qualifications of the type specified above. Please specify which RAB your qualification(s) have been awarded by.

~ Music teaching qualification(s); e.g. Certificate of Teaching from ABRSM, Practical Piano Teacher's Course by EPTA, Teaching Diploma or vocational qualification(s) from a RAB.

~ Music teaching course(s); e.g. short courses providing information or experience relating to music teaching, but that do not result in a formal accreditation.

NOTE: The survey format requires you to enter something into each response box. Please write 'None' if you do not hold a qualification in that category, 'N/A' if a category is not applicable to your discipline or 'Do not wish to answer' if you are not comfortable answering this question. *

School music certificate(s); e.g. GCSE or A Level

Music theory certificate(s); e.g. Grades 1 - 8 from a RAB

Performance certificate(s); e.g. Violin grades 1 - 8 from a RAB

Diploma(s) in a music-related subject from a RAB

Undergraduate degree(s); e.g. BA in Music from University of Leeds

Postgraduate degree(s); e.g. MMus from University of Sheffield

Music teaching qualification(s)

Music teaching course(s)

General teaching qualification(s); e.g. PGCE, GTP or QTS

Any other qualification(s) that you deem relevant or necessary

16. What do you believe should be the minimum required qualification(s) that a musician must hold to teach instrumental/vocal music lessons?

NOTE: If you would prefer not to answer this question please write 'Prefer not to answer' in the box provided below and continue to the next section.

POLITE REQUEST: For this answer, and all subsequent free form text box responses, it would be very helpful if you could refrain from leaving lines (i.e. pressing return) between answer clauses as this complicates the analysis process. *

3. Experience of performance-related problems

This section of the survey seeks to explore participants' personal experience of performance-related difficulties such as musculoskeletal problems, noise-induced hearing loss and music performance anxiety. Results will be kept anonymous and confidential; if data from this research is published then no individual participant will be identifiable.

17. Have you ever experienced pain, weakness, lack of control, numbness, tingling, or other symptoms that interfere with your ability to play your instrument/sing at the level you are accustomed to? *

☐ No

☐ Yes

18. Do you currently experience pain, weakness, lack of control, numbness, tingling, or other symptoms that interfere with your ability to play your instrument/sing at the level you are accustomed to? *

☐ No ☐ Yes

19. If you answered 'Yes' to question 18 please indicate approximately how long you have been experiencing symptoms:

- ☐ Less than 2 weeks
- ☐ Between 2 and 4 weeks
- ☐ Between 1 and 3 months
- ☐ Between 3 months and 1 year
- ☐ Between 1 and 5 years
- ☐ Between 6 and 10 years
- ☐ Other (Please Specify)

20. Have you received any advice or treatment for physical symptoms such as pain, weakness, lack of control, numbness, tingling, or other symptoms that interfere with your ability to play your instrument/sing at the level you are accustomed to?

If you have not experienced any of these symptoms please write 'N/A' in the box below.

If you have experienced these symptoms but have not received advice or treatment please write 'No' in the box below.

If you have received advice and/or treatment please outline below from whom you received advice/treatment (e.g. general practitioner, physiotherapist) and what form the advice/treatment took (e.g. surgery, physiotherapy, exercise, rest).

POLITE REMINDER: For this answer, and all subsequent free form text box responses, it would be very helpful if you could refrain from leaving lines (i.e. pressing return) between answer clauses as this complicates the analysis process. *

21. Have you been diagnosed with a physical disorder that was either caused by participation in musical activities or that affects your ability to engage in musical activities?

NOTE: For example, musculoskeletal disorders could include tendonitis, carpal tunnel syndrome, ulnar nerve entrapments, de Quervain's tenosynovitis, thoracic outlet syndrome, joint hypermobility syndrome, Morton's neuroma and focal dystonia. Some examples of vocal problems include nodules on the vocal folds, haematoma of the vocal folds, polyps in the sinus or elsewhere, and laryngitis.

If you have not experienced physical symptoms that affect your ability to engage in musical activities please write 'N/A' in the box below.

If you have experienced physical symptoms that were either caused by participation in music or which affect your ability to engage in musical activities but you have not been diagnosed with a physical disorder please write 'No' in the box below.

If you have been diagnosed with a physical disorder that was either caused by participation in musical activities or that affects your ability to engage in musical activities please give the diagnosis below and the profession of the person who diagnosed you (e.g. doctor, physiotherapist etc.). *

22. Have you ever experienced a marked and persistent anxious apprehension related to musical performance (these symptoms are often referred to as music performance anxiety)?

This could include physical symptoms or symptoms that affect your mood, thoughts or behaviour. Symptoms may not necessarily impair the quality of your performance. *

☐ No ☐ Yes

23. Do you currently experience a marked and persistent anxious apprehension related to your musical performance? *

☐ No ☐ Yes

24. If you currently experience symptoms of anxious apprehension please indicate from 1 (not at all) to 7 (a lot) the extent to which these symptoms negatively affect your musical activities.

If you do not experience symptoms of anxious apprehension that negatively affect your musical activities please select the relevant option below and continue to the next question. *

☐ I do not experience symptoms of anxious apprehension that negatively affect my musical activities.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

25. Have you received any advice or treatment relating to music performance anxiety?

If you have not experienced music performance anxiety please write 'N/A' in the box below.

If you have experienced music performance anxiety but have not received advice or treatment please write 'No' in the box below.

If you have received advice or treatment please outline below from whom you received advice (e.g. counsellor, psychotherapist, GP, performance coach, colleague) and what form the treatment took (e.g. beta-blockers, cognitive-behavioural therapy, de-sensitisation etc.). *

26. Do you have any noise-induced hearing loss (NIHL)?

NOTE: Two common symptoms of NIHL are the inability to hear certain frequencies, and tinnitus (which the American Tinnitus Association describes as 'the perception of sound in the ears or head where no external source is present'). *

☐ No, I have not experienced any hearing problems.

☐ I have experienced hearing problems but they weren't caused by noise.

☐ I have experienced hearing problems but I'm not sure what caused them.

☐ I think I might have NIHL but I haven't been diagnosed.

☐ Yes, I have been diagnosed with NIHL.

☐ Other (Please Specify)

27. Have you received any advice or treatment relating to noise-induced hearing loss?

If you have not experienced any problems with your hearing please write 'N/A' in the box below.

If you have experienced hearing problems but have not received advice or treatment please write 'No' in the box below.

If you have experienced noise-related hearing problems and have received advice and/or treatment please outline below from whom you received advice/treatment (e.g. general practitioner, ear, nose and throat specialist etc.) and/or what form the advice/treatment took (e.g. ear plugs, surgery etc.). *

4. Health education in instrumental/vocal music lessons

This section of the survey aims to investigate teachers' perspectives on health education in instrumental/vocal lessons and their current inclusion of health education in lessons.

28. Please use the rating scale below to indicate to what extent you believe that instrumental/vocal teachers are responsible for the health and well-being of their pupil(s):

1 = Teachers are not at all responsible for the health and well-being of their pupil(s)

7 = Teachers are wholly responsible for the health and well-being of their pupil(s) *

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

29. Further to Question 28 please take this opportunity to outline the rationale behind your answer choice.

For example, if you do not believe that teachers are responsible for their pupils' health and well-being please explain briefly why you believe this. Who do you think is, or should be, responsible for their health and well-being?

If you do believe that teachers are responsible for the health and well-being of their pupil(s) please outline why you believe they are responsible, what form this responsibility should take, and to which aspects of health and well-being this responsibility extends (i.e. Does it apply only to pupils performance-related health, or does it extent to their overall well-being? Does the teacher's responsibility cover physical, psychological and social well-being or only one of these aspects?). *

30. To what extent do you spend time helping your pupils to adapt their instrument(s) and/or environment to suit them? (1= not at all, 5 = very much) *

☐1 ☐2 ☐3 ☐4 ☐5 ☐Other (Please Specify)

31. If you help your pupil(s) to adapt their instrument(s) and/or environment to suit them please give examples of what you do below:

e.g. Set up of violin shoulder rest, suggestion of supports, help with sitting position, alteration of the instrument etc.

32. Do you discuss topics relating to performance-related problems with your pupil(s)?

NOTE: Performance-related problems could refer to musculoskeletal problems, noise-induced hearing loss, performance anxiety, or any other performance-related concern.

If you do not discuss performance-related problems with your pupils please write 'No' in the box provided below. It would be helpful to know why you do not discuss performance-related problems with your pupil(s); if you are willing to discuss this please write your thoughts in the text box provided below.

If you do discuss performance-related problems with your pupils, please give examples of what you discuss in the text box provided below. This could involve general discussion of performance-related topics, or advice that you provide to help pupil(s) prevent or manage performance-related problems,

PLEASE NOTE: This is not a judgemental question; the researcher is interested in what teachers believe regarding this subject and what they currently do during their teaching. *

33. If a pupil develops a performance-related problem do you offer advice on management or treatment yourself or do you refer them to someone else for advice? Please tick the statement that most applies or alternatively, if you disagree with all statements, please outline what you do in the 'Other' box. *

- ☐ I have never encountered a pupil with physical or psychological problems.
- ☐ I don't offer advice and don't refer the student to anyone else.
- ☐ I don't offer advice but I refer the student to someone else.
- ☐ I offer advice for basic problems but will refer them to someone else for more complex problems or if symptoms persist or develop.
- ☐ I offer advice for both basic and more complex problems and therefore don't refer them to anyone else.
- ☐ I offer advice for both basic and complex problems but will refer them to someone else if symptoms persist or develop.
- ☐ Other (Please Specify)

34. If you would refer a pupil to someone for treatment or management of a performance-related problem, what type of professional/organisation would you refer them to?

5. Health education and support for musicians and music educators

This section of the survey explores your prior and current experiences of health education and support for musicians as well as your potential interest in learning more about health education for musicians. This is the final survey section that includes questions regarding health education for musicians, the next section is the conclusion of the survey which thanks you for your participation and invites you to participate in future research, events, and training.

35. Prior to participation in this study were you aware of the following organisations, societies or initiatives? *

	No	Yes
The Dystonia Society		
Foundations for Excellence		
National Association of Teachers of Singing		
International Guitar Foundation		

Arts Council England
British Association for Performing Arts Medicine (BAPAM)
International Society for the Study of Tension in Performance (ISSTIP)
British Voice Association
UK Music Mark
Incorporated Society of Musicians
Musicians' Health Scotland
Musicians Benevolent Fund
Sound Connections
Musicians' Union
VoxOP (Singer Support Group)
Royal Society of Musicians
International Society for Music Education
Music Education Council

36. Are you aware of any professional organisations, societies and/or initiatives relating to music teaching or health support for musicians that are not listed in question 35?

If you are not aware of additional organisations, please write 'No' in the box provided below.

If you are aware of additional professional organisations please write them in the box provided below. This could include instrument specific organisations such as the European Piano Teachers Association (EPTA) which were excluded from the previous question due to space restrictions.

NOTE: Please use semi-colons to separate responses instead of leaving line spaces as this will greatly aid the analysis process, i.e.:

European Piano Teachers Association (EPTA); European String Teachers Association (ESTA); British Double Reed society; etc.; etc. *

37. Have you received any health education specific to musical practice/performance that was not provided by your instrumental/vocal teacher(s)?

If you have not received health education specific to musical practice/performance, please write 'No' in the box provided below.

If you have received health education specific to musical practice/performance, please outline what form this health education took and who it was delivered by in the box provided below.

NOTE: This does not refer to health education provided by your instrumental or vocal teacher as part of your music lessons. It does refer to any courses, workshops or seminars focused on health education for musicians; this could have been as part of your music degree or any other qualification, or it could be a stand-alone session or course run by an individual or a group. *

38. Where is your existing awareness and knowledge of performance-related problems and/or health education for musicians derived from? *

39. Have you heard of the following books?

NOTE: If you have read some or all of a book then please choose this option instead of the 'heard of it' option and likewise if you own a book then please choose that option instead of the 'heard of it' or 'read some/all of it' options.

PLEASE NOTE: Inclusion of a resource in this list is not an endorsement of the accuracy, reliability or appropriateness of the resource. This is not a comprehensive list of currently available resources; if you know of any relevant health education books for musicians that are not included in this question please list them in the space provided in question 40. *

	Not heard of it	Heard of it	Read some of it	Read all of it	Own it
The Musician's Way (Klickstein, 2009)					
Indirect Procedures (de Alcantara, 2013)					
Secrets of Musical Confidence (Evans, 2003)					
Playing (Less) Hurt (Horvath, 2010)					
Singing and Teaching Singing (Chapman, 2011)					
What Every Singer Needs to Know About the Body (Malde, Allen & Zeller, 2012)					
The Musician's Body - A Maintenance Manual (Rosset i Llobet & Odam, 2007)					
Musical Excellence (Williamon, 2004)					
The Athletic Musician (Paull & Harrison, 1997)					
What Every Musician Needs to Know About the Body (Conable & Conable, 2000)					
The Biology of Music Performance (Watson, 2009)					

40. Are you aware of any books relating to music teaching or health support that were not included in question 39?

If you are not aware of additional books, please write 'No' in the box provided.

If you are aware of additional books please list them in the text box provided below:

NOTE: If possible, please refer to resources in the format shown below and separate resources using a semi-colon rather than beginning on a new line.

Author (Publishing date if known), Title, Publisher; Author (Publishing date if known), Title, Publisher; etc.; etc. *

41. Do you read or subscribe to any music education or health related journals?

If you do not, please write 'No' in the box provided below.

If you do, please write which journals you read or subscribe to and how you became aware of the journal(s) in the box provided below. *

42. Do you consult any internet sources for information regarding health education or support for musicians?

If you do not, please write 'No' in the box provided below.

If you do, please provide a web address and/or description of the resource(s) that you use and how you first became aware of the resource(s) in the box provided below. *

43. To what extent would you be interested in learning more about health education and support for musicians (1 = Not at all, 7 = Very much)? *

	1	2	3	4	5	6	7
For your own benefit							
For your pupil(s)' benefit							

44. If you are interested in learning more about health education and support for musicians, which of the following materials, resources and/or training would you be interested in accessing it via?

NOTE: You may choose more than one answer. *

- ☐ I am not interested in learning about health education and support for musicians
- ☐ Books
- ☐ Peer-reviewed journal articles
- ☐ Newspaper articles
- ☐ The internet
- ☐ A one-off lecture/workshop
- ☐ A series of lectures/workshops
- ☐ A week long course of lectures/workshops
- ☐ An e-learning course
- ☐ An accredited qualification
- ☐ Other (Please Specify)

45. At which point during a musical career do you think it would be most appropriate and effective for musicians to learn about health education and support?

If you disagree with all of the below options or do not believe that it would be appropriate and/or effective to learn about health education and support as part of a musical career please use the 'Other' box provided to write your thoughts regarding this question.

NOTE: You may choose more than one answer. *

- ☐ As a novice musician learning to play an instrument (i.e. initial - grade 3 or equivalent standard)
- ☐ As an intermediate musician learning to play an instrument (i.e. grade 4 - 7 or equivalent standard)
- ☐ As an advanced musician learning to play an instrument (i.e. grade 8+ or equivalent standard)
- ☐ Throughout development from novice to advanced musician
- ☐ As part of a university or college music education
- ☐ As part of an accredited instrumental/vocal music teaching qualification
- ☐ As part of continuing professional development as an instrumental/vocal music teacher

☐ I do not think that it is necessary to formalise education about health and wellbeing for musicians

☐ Other (Please Specify)

46. Are there any techniques or activities that you believe are beneficial to a musician's health and well-being?

47. Are there any health education related topics that you would find particularly relevant or useful for your teaching activities or that you would particularly like to learn more about?

If there are, please write a brief outline of these topics in the box provided below:

6. Survey Conclusion

Thank you for completing the survey, your responses will help to further understanding of health education for musicians from the perspective of instrumental and vocal teachers. If you are interested in this topic and would like to be involved in future research, or informed about health education resources and training events please respond to the questions below.

If you have any further thoughts regarding the topics raised in this survey, or any questions arising from participation, please contact the researcher, Naomi Norton, at **[insert email address]**.

If you know of any other instrumental or vocal teachers who may be willing to complete this survey please forward the link to them (it will have to be completed on a different computer).

48. This study is part of an on-going PhD project, if you would be willing to participate in future studies regarding health education for musicians please write your email address in the box provided below:

NOTE: This email address will be kept confidential, will not be included in any report and will not be passed on to any third parties. It will only be used to contact you regarding participation in future studies. Email Address:

49. If you are willing to participate in future research it would be helpful if you could write a code in the box below based on your initials, the first initial of your mother's maiden-name, birth month and birth year, i.e.:

Joe Bloggs, mother's maiden name 'Smith', born November 1978 would be JBS111978.

If you choose to take part in the proposed annual review of this survey this anonymous code would be used by the researcher to compare your responses in 2014 to those that you gave in 2013. It would not be used for identification beyond this stated purpose and would not be used to identify any responses in published reports.

50. The researcher will be hosting a conference and training event for instrumental and vocal music teachers at the Royal Northern College of Music in Manchester on Sunday 19th January 2014 from 10am - 4pm.

This training event will include a range of sessions regarding topics such as available health support and education for musicians, general anatomy and disorders that threaten the health of musicians, instrument-specific problems (and solutions), exercise and body awareness techniques, performance coaching and performance anxiety. Details of speakers will be released closer to the time.

Attendance at this event will cost approximately £25 which includes entrance to the event, break-time refreshment and a sandwich lunch. Places are limited to 100 and will be distributed on a first-come first-served basis.

If you are interested in receiving information about this event, or any other future training events or health education resources, please write your email address in the box provided below:

NOTE: This email address will be kept confidential and separate to data provided during this study, will not be included in any report and will not be passed on to any third parties. It will only be used to contact you regarding future training and events.

Email address:

Appendix C: Survey study respondents

List of abbreviations: Adult pupils (A), Classical (C), Female (F), Instrumental/vocal (I/V), Male (M), Nursery school age pupils (N), Other-than-classical (OTC), Prefer not to disclose (PND), Primary school age pupils (P), Regulated Qualifications Framework (RQF), Secondary school age pupils (S), Sixth form pupils (SF), Young adult pupils (YA).

Note: Missing data indicates that a respondent did not complete the relevant item(s) on the survey.

R#	Age	Sex	Professional identity	Primary teaching instrument	Experience (years)	Genre of activities	Pupil age groups	Highest RQF Level	History of physical symptoms	History of MPA	Reported a hearing problem
1	55	M	Musician	Keyboard	31-40	C&OTC	P, S, SF, YA, A	RQF 7	No	Yes	No
2	65	M	Teacher-who-performs	Bowed strings	>40	C	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
3	23	M	Researcher & Musician	Brass	3-4	C	P, S, SF, A	RQF 7	Yes	No	No
4	24	F	I/V teacher	Keyboard	3-4	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	No
5	51	M	Performer-who-teaches	Brass	21-30	C&OTC	P, S, SF	RQF 7	Yes	Yes	Yes
6	22	F	Student musician	Keyboard	3-4	C	N, P, S	RQF 6	No	No	No
7	67	F	I/V teacher	Woodwind	21-30	C&OTC	P, S, SF, YA, A	RQF 4	Yes	Yes	No
8	28	F	Teacher-who-performs	Keyboard	5-10	C&OTC	S, SF	RQF 7	Yes	No	No
9	58	M	Performer-who-teaches	Brass	31-40	C	YA, A	RQF 6	Yes	No	Yes
11	58	F	I/V teacher	Keyboard	31-40	C	P, S, YA, A	RQF 6	No	Yes	No
14	34	F	Musician	Woodwind	11-20	C&OTC	P, S, SF, YA, A	RQF 6	No	Yes	No
15	30	F	I/V teacher	Solo voice	5-10	C	P, S, SF, A	RQF 6	Yes	No	No
16	37	F	I/V teacher	Brass	11-20	C&OTC	P, S, SF, YA, A	RQF 7	No	Yes	No
17	66	F	Musician	Woodwind	>40	C&OTC	S, A	RQF 7	Yes	Yes	Yes
18	46	M	Musician	Brass	21-30	C&OTC	P, S, SF	RQF 7	Yes	No	Yes
21	49	F	I/V teacher	Keyboard	11-20	C	P, S, SF, A	RQF 6	Yes	Yes	No
22	41	M	Teacher-who-performs	Bowed strings	11-20	C&OTC	P, S, SF, YA	RQF 6	Yes	Yes	No
25	43	F	Musician	Bowed strings	11-20	C	N, P, S, SF, A	RQF 6	Yes	No	No
26	33	F	Teacher-who-performs	Keyboard	11-20	C&OTC	P, S, SF	RQF 7			
29	23	M	I/V teacher	Drum Kit	5-10	OTC	N, P, S	RQF 6	Yes	No	No
30	52	F	I/V teacher	Keyboard	21-30	C&OTC	P, S, SF, A	RQF 6	Yes	Yes	No

31	35	F	Classroom teacher	Percussion & ukulele	11-20	C&OTC	P	RQF 6	Yes	No	No
32	40	F	I/V teacher	Brass	11-20	C	P, S, SF	RQF 7	Yes	Yes	Yes
33	25	F	Musician	Woodwind	1-2	C&OTC	P, S	RQF 6	No	No	No
34	37	F	I/V teacher	Woodwind	11-20	C	P, S, SF, A	RQF 6	No	Yes	No
35	60	F	I/V teacher	Keyboard	>40	C	P, S, SF, YA, A	RQF 6	No	No	No
38	61	F	I/V teacher	Keyboard	31-40	C	P, S	RQF 5	Yes	No	Yes
39	42	F	I/V teacher	Woodwind	11-20	C&OTC	P, S, SF	RQF 7	Yes	No	Yes
40	39	M	Musician	Brass	11-20	C	P, S, SF, YA, A	RQF 6	Yes	No	Yes
41	59	F	Musician	Woodwind	31-40	C	S, SF, YA, A	RQF 6	Yes	Yes	Yes
42	61	M	Musician	Drum Kit	11-20	C&OTC	P, S, SF, YA, A		Yes	Yes	Yes
43	56	F	I/V teacher	Choral voice	11-20	C&OTC	N, P, A	RQF 7	No	Yes	No
44	56	F	Musician	Woodwind	31-40	C	S, SF, YA, A	RQF 4	Yes	Yes	No
46	54	F	Musician	Woodwind	31-40	C&OTC	P, S	RQF 6	No	Yes	No
49	45	F	Performer-who-teaches	Bowed strings	21-30	C&OTC	P, S, SF, YA, A	RQF 6	Yes	No	No
50	57	M	I/V teacher	Woodwind	31-40	C&OTC	P, S, SF	RQF 5	Yes	No	Yes
51	53	F	Musician	Woodwind	31-40	C&OTC	SF, YA, A	RQF 6	Yes	Yes	Yes
52	42	F	Musician	Bowed strings	5-10	OTC	P, YA, A	RQF 5	No	No	Yes
54	34	F	Teacher-who-performs	Violin & Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 6	Yes	No	No
55	>35	F	Performer-who-teaches	Brass	21-30	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	No
56	51	F	I/V teacher	Keyboard	11-20	C	P, S, SF, YA, A	RQF 4			
57	45	M	I/V teacher	Woodwind	11-20	C&OTC	P, S, SF, YA, A	RQF 4	No	Yes	Yes
58	56	F	Musician	Voice	11-20	OTC	P, S, SF, YA, A	RQF 7	No	No	Yes
59	24	M	Performer-who-teaches	Brass	1-2	C	P, S, SF, A	RQF 6	No	No	Yes
62	50	M	Musician	Brass	21-30	C&OTC	P, S, SF	RQF 7	No	No	Yes
63	28	M	Performer-who-teaches	Bowed strings	3-4	C&OTC	P, S	RQF 7	Yes	No	No
65	26	F	Performer-who-teaches	Bowed strings	5-10	C&OTC	P, S, SF, A	RQF 7	Yes	Yes	No
66	61	M	Musician	Woodwind	>40	C&OTC	P, S, SF, YA, A	RQF 3	Yes	Yes	No
70	38	F	Musician	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 6	No	No	No
72	28	F	Musician	Plucked strings	5-10	C	P, S, SF, A	RQF 7	Yes	Yes	No
74	33	F	Musician	Plucked strings	11-20	C&OTC	P, S, SF, A	RQF 6	No	Yes	Yes
75	24	F	Non-music professional	Solo voice	3-4	C&OTC	N, P	RQF 3	Yes	No	No

76	26	F	Teacher-who-performs	Solo voice	5-10	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
77	65	F	Musician	Solo voice	11-20	C	P, S, SF, YA, A	RQF 8	No	No	Yes
78	61	M	Teacher-who-performs	Solo voice	31-40	C	P, S, SF, A	RQF 6	No	No	No
79	66	F	I/V teacher	Solo voice	21-30	C&OTC	S, SF, YA, A	RQF 6	Yes	Yes	No
85	55	F	I/V teacher	Solo voice	31-40	C	S, SF, YA, A	RQF 7	Yes	No	No
87	52	M	Performer-who-teaches	Solo voice	5-10	C	P, S, SF, YA, A	RQF 3	Yes	Yes	Yes
88	57	F	Musician	Solo voice	11-20	C&OTC	YA, A	RQF 6	Yes	Yes	No
89	54	F	Teacher-who-performs	Solo voice	11-20	C&OTC	S, SF	RQF 6			
90	60	F	Teacher-who-performs	Solo voice	21-30	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	No
91	33	F	I/V teacher	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 3	Yes	Yes	No
93	57	F	I/V teacher	Solo voice	31-40	C	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
94	58	M	I/V teacher	Solo voice	21-30	C&OTC	P, S, YA, A	RQF 6	No	No	No
95	78	F	Examiner	Keyboard	>40	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	No
96	59	M	I/V teacher	Solo voice	21-30	OTC	SF, YA, A	RQF 6	No	No	Yes
97	33	F	I/V teacher	Keyboard	11-20	C	S, SF, A	RQF 7	Yes	No	No
99	33	F	Musician	Solo voice	1-2	C&OTC	S, SF, A	RQF 6	No	Yes	Yes
100	49	F	I/V teacher	Solo voice	21-30	C&OTC	P, S, SF, YA, A	RQF 8	Yes	Yes	No
101	57	F	I/V teacher	Solo voice	11-20	C&OTC	S, SF, YA, A	RQF 6	No	Yes	No
104	29	F	I/V teacher	Solo voice	5-10	C&OTC	P, S, SF, YA	RQF 6	Yes	No	Yes
105	56	F	I/V teacher	Bowed strings	5-10	C&OTC	P, S, SF	RQF 5	Yes	No	Yes
106	53	F	Teacher-who-performs	Solo voice	5-10	C&OTC	SF, YA, A	RQF 7	No	No	No
107	61	F	I/V teacher	Solo voice	11-20	C&OTC	S, SF, A	RQF 4	No	Yes	Yes
108	22	F	Musician	Solo voice	1-2	C	S, SF	RQF 6	No	Yes	No
109	68	M	Teacher-who-performs	Woodwind	>40	C&OTC	S, SF, A	RQF 7	Yes	Yes	No
110	39	M	I/V teacher	Drum Kit	5-10	C&OTC	P, S, SF, YA, A	RQF 6	No	No	Yes
111	58	F	I/V teacher	Solo voice	31-40	C&OTC	P, S, SF, YA, A	RQF 7	No	Yes	Yes
112	60	F	Teacher-who-performs	Solo voice	31-40	C&OTC	P, S, SF, YA, A	RQF 4	Yes	Yes	Yes
113	54	F	Lecturer & voice teacher	Solo voice	21-30	C&OTC	S, SF, YA, A	RQF 7	Yes	Yes	No
114	62	M	Musician	Plucked strings	11-20	OTC	P, S, SF, YA, A	RQF 3	Yes	No	Yes
115	73	F	I/V teacher	Solo voice	21-30	C&OTC	S, SF, YA, A	RQF 3	Yes	No	No

116	55	F	Teacher-who-performs	Solo voice	21-30	C	P, S, SF, A	RQF 6	Yes	Yes	No
117	58	F	Teacher-who-performs	Bowed strings	21-30	C	P, S, A	RQF 6			
119	65	F	Musician	Keyboard	>40	C	YA, A	RQF 8	No	Yes	No
120	69	M	Teacher-who-performs	Brass	>40	C	P, S, SF	RQF 6	Yes	Yes	No
121	32	F	Musician	Solo voice	5-10	C&OTC	All	RQF 6	Yes	Yes	No
122	56	F	Teacher-who-performs	Solo voice	5-10	C&OTC	S, SF, A	RQF 6	No	Yes	No
123	70	M	I/V teacher	Solo voice	31-40	C&OTC	YA, A	RQF 7	Yes	Yes	No
124	66	F	I/V teacher	Solo voice	11-20	C	S, SF, YA, A	RQF 6	Yes	No	No
125	53	F	I/V teacher	Bowed strings	31-40	C&OTC	N, P, S, SF, A	RQF 6	Yes	Yes	Yes
127	37	F	Musician	Woodwind	11-20	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No
128	30	F	Musician	Woodwind	5-10	C&OTC	P, S, YA, A	RQF 7	Yes	Yes	No
131	40	F	Performer-who-teaches	Woodwind	11-20	C	P, S, SF, A	RQF 7	Yes	No	Yes
132	41	F	I/V teacher	Choral voice	11-20	OTC	N, P, S, A	RQF 5	Yes	No	No
133	78	F	I/V teacher	Solo voice	31-40	C	SF, YA, A	RQF 7	Yes	No	No
134	23	M	Musician	Bowed strings	3-4	C	P, S	RQF 6	Yes	Yes	Yes
135	29	M	I/V teacher	Keyboard	11-20	C	P, S, SF, YA, A	RQF 7	Yes	No	No
139	43	F	Performer-who-teaches	Solo voice	11-20	C&OTC	S, SF, YA, A	RQF 6	Yes	No	Yes
140	47	F	Teacher-who-performs	Keyboard	5-10	C&OTC	P, S, A	RQF 6	Yes	No	No
141	36	F	Teacher-who-performs	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 4	Yes	Yes	No
142	60	F	Teacher-who-performs	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	No
144	50	F	I/V teacher	Keyboard	5-10	C&OTC	P, S, SF	RQF 4	No	Yes	No
145	59	F	I/V teacher	Solo voice	31-40	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No
146	47	F	Academic who teaches	Keyboard	21-30	C	P, S, SF, YA, A	RQF 8	Yes	Yes	Yes
147	55	M	I/V teacher	Bowed strings	3-4	C	P, S, SF, YA, A	RQF 6	No	Yes	No
148	64	F	I/V teacher	Solo voice	31-40	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
149	44	F	Teacher-who-performs	Bowed strings	21-30	C	N, P, S, YA, A	RQF 7	No	No	No
150	64	F	I/V teacher	Solo voice	31-40	OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
151	40	F	I/V teacher	Solo voice	3-4	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	No
153	29	F	Musician	Solo tuned percussion	3-4	OTC	P, S, SF	RQF 2	Yes	Yes	Yes
154	54	F	Performer-who-teaches	Woodwind	21-30	C	S, SF	RQF 8	Yes	No	No
155	53	F	I/V teacher	Keyboard	21-30	C	S, SF	RQF 6	No	Yes	Yes

157	56	M	Performer-who-teaches	Woodwind	31-40	C	SF, YA, A	RQF 5	Yes	No	Yes
159	36	F	Musician	Woodwind	11-20	C&OTC	P, S, SF, YA, A	RQF 8	No	Yes	No
161	55	F	I/V teacher	Solo voice	11-20	C&OTC	S, SF, YA, A	RQF 6	Yes	Yes	Yes
162	22	F	Musician	Solo voice	1-2	C&OTC	P	RQF 6			
163	22	M	Classroom teacher	Keyboard	1-2	C	S, A	RQF 6	No	No	No
164	31	F	Teacher & Dalcroze practitioner	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
165	22	M	Musician	Choral voice	1-2	C&OTC	P, YA, A	RQF 6	Yes	No	Yes
166	26	F	Teacher-who-performs	Keyboard	1-2	C&OTC	P, S	RQF 6	Yes	Yes	No
168	28	F	I/V teacher	Bowed strings	5-10	C&OTC	P, S, SF, A	RQF 6	Yes	Yes	No
169	46	F	Classroom teacher	Bowed strings	21-30	C	P, S, SF	RQF 6	Yes	Yes	No
170	42	F	Teacher-who-performs	Keyboard	11-20	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No
172	53	F	I/V teacher	Woodwind	11-20	C	P, S, SF, A	RQF 6	Yes	No	No
175	24	M	Musician	Plucked strings	3-4	C&OTC	P, S, SF, YA	RQF 6	No	Yes	Yes
177	58	F	Teacher-who-performs	Bowed strings	31-40	C	P, S, SF, A	RQF 6	Yes	No	No
178	23	F	Musician	Bowed strings	1-2	C	P, S, A	RQF 7	Yes	Yes	No
179	24	M	Performer-who-teaches	Keyboard	3-4	OTC	P, S, SF, YA, A	RQF 6	Yes	No	No
180	58	F	Musician	Bowed strings	31-40	C	SF, YA, A	RQF 5	No	Yes	No
181	PND	PND	I/V teacher	Keyboard	11-20	C	P, S, SF, A	RQF 6	No	No	No
182	31	F	I/V teacher	Keyboard	5-10	C	P, S, SF, YA, A	RQF 6	No	No	No
183	53	F	Teacher-who-performs	Bowed strings	31-40	C	P, S, A	RQF 6	Yes	No	No
184	41	F	I/V teacher	Bowed strings	11-20	C	P, S, SF, A	RQF 7	Yes	No	No
187	24	M	Performer-who-teaches	Plucked strings	3-4	C&OTC	P, S, A	RQF 6	Yes	Yes	No
188	22	F	Musician	Bowed strings	1-2	C&OTC	S, SF	RQF 6	Yes	Yes	No
189	22	F	Classroom teacher	Keyboard	1-2	OTC	S, SF	RQF 6			
190	42	M	Music ed. manager	Music theory	11-20	C&OTC	YA, A	RQF 6	Yes	Yes	Yes
191	39	F	I/V teacher	Bowed strings	5-10	C	All	RQF 7	Yes	No	Yes
192	23	F	Musician	Woodwind	<1	C&OTC	S, SF, YA, A	RQF 7	Yes	Yes	No
193	56	F	I/V teacher	Woodwind	11-20	C&OTC	P, S, SF, A	RQF 7	Yes	Yes	Yes
194	18	M	Student musician	Bowed strings	1-2	C&OTC	SF, YA, A	RQF 3	Yes	Yes	No

195	51	F	I/V teacher	Woodwind	5-10	C	P, S	RQF 6	Yes	Yes	Yes
196	68	F	I/V teacher	Keyboard	31-40	C	All	RQF 2	No	No	Yes
197	49	F	Teacher-who-performs	Keyboard	21-30	C	P, S, SF, YA, A	RQF 7	No	Yes	Yes
198	37	F	Teacher-who-performs	Bowed strings	11-20	C	P, S, SF, A	RQF 6	Yes	Yes	Yes
199	30	F	Musician	Keyboard	11-20	C&OTC	N, P, S, A	RQF 7	Yes	No	No
200	36	M	Musician	Plucked strings	11-20	OTC	YA, A	RQF 7			
201	22	M	Performer-who-teaches	Drum Kit	3-4	C&OTC	P, S	RQF 7	Yes	Yes	Yes
202	41	F	I/V teacher	Woodwind	11-20	C&OTC	P, S, SF, A	RQF 7	Yes	Yes	Yes
205	65	F	Performer-who-teaches	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	No
206	40	F	Teacher-who-performs	Solo voice	5-10	OTC	S, SF, YA, A	RQF 6	No	Yes	No
207	29	M	Musician	Woodwind	3-4	C	P, S, SF	RQF 7	No	No	No
208	34	F	Musician	Solo voice	5-10	C	P, S, A	RQF 7	No	Yes	No
209	46	F	I/V teacher	Woodwind	21-30	C	P, S, SF, YA, A	RQF 6			
211	42	M	I/V teacher	Solo voice	3-4	C&OTC	P, S, SF, YA, A	RQF 8	No	No	Yes
214	23	F	Musician	Brass	1-2	C&OTC	P, S, A	RQF 6	Yes	Yes	Yes
215	44	F	I/V teacher	Bowed strings	5-10	C	P, S, SF, YA, A	RQF 3	No	Yes	No
217	31	F	Musician	Woodwind	11-20	C	N, P	RQF 7	No	Yes	Yes
218	31	M	Musician	Plucked strings	5-10	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	No
219	50	F	Musician	Keyboard	21-30	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No
220	64	M	I/V teacher	Plucked strings	11-20	C&OTC	S, SF, YA, A	RQF 5	No	No	No
221	48	M	Teacher-who-performs	Keyboard	3-4	C	P, S, A	RQF 6	No	Yes	Yes
222	52	F	I/V teacher	Keyboard	5-10	C&OTC	P, S, SF, YA, A	RQF 3	Yes	Yes	No
223	27	F	I/V teacher	Keyboard	5-10	C&OTC	P, S, SF, YA, A	RQF 6	Yes	No	No
224	46	M	Teacher-who-performs	Keyboard	21-30	C	P, S, SF, YA, A	RQF 7	Yes	Yes	No
225	28	F	I/V teacher	Keyboard	5-10	C&OTC	P, S, A	RQF 6	Yes	No	No
227	37	M	Musician	Bowed strings	5-10	C&OTC	P, S, SF, YA, A	RQF 6	No	No	No
229	35	F	I/V teacher	Keyboard	11-20	C&OTC	N, P, S, SF	RQF 6	Yes	No	No
230	71	F	Teacher-who-performs	Keyboard	31-40	C&OTC	P, S, A	RQF 6	No	Yes	No
231	24	F	Non-music professional who teaches	Brass	1-2	C	P, S, A	RQF 7	Yes	Yes	No
232	35	F	Musician	Keyboard	5-10	C&OTC	P, S, YA, A	RQF 3	Yes	No	No

233	28	F	I/V teacher	Keyboard	1-2	C	P, S, A	RQF 6	No	No	No
234	29	F	Musician	Bowed strings	3-4	C&OTC	N, P, S, A	RQF 3	Yes	Yes	Yes
235	44	M	Musician	Plucked strings	21-30	OTC	SF, YA, A	RQF 7	No	No	No
239	34	F	Performer-who-teaches	Choral voice	3-4	OTC	S, SF, YA, A	RQF 6	Yes	No	No
241	53	M	Performer-who-teaches	Woodwind	21-30	C&OTC	SF, YA, A	RQF 2	Yes	Yes	Yes
242	40	M	Musician	Brass	11-20	C	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
243	27	M	Musician	Drum Kit	5-10	OTC	P, S, A	RQF 6	Yes	No	Yes
245	41	F	I/V teacher	Keyboard	1-2	C&OTC	P, S, A	RQF 6	No	Yes	No
246	64	F	Lecturer & teacher	Keyboard	>40	C	P, S, SF, YA, A	RQF 7			
247	50	F	Musician	Woodwind	21-30	C&OTC	YA, A	RQF 8	No	No	No
248	34	F	Teacher-who-performs	Woodwind	11-20	C&OTC	P, S, SF	RQF 7	Yes	No	No
249	30	F	I/V teacher	Solo voice	5-10	C&OTC	All	RQF 6	No	Yes	Yes
250	54	M	Performer-who-teaches	Woodwind	31-40	C&OTC	SF, YA, A	RQF 7	Yes	Yes	No
251	27	F	I/V teacher	Woodwind	5-10	C&OTC	P, S, SF	RQF 7	Yes	Yes	Yes
252	22	F	Classroom teacher	Keyboard	1-2	C&OTC	P, S, SF	RQF 6	No	Yes	No
253	38	F	I/V teacher	Woodwind	11-20	C&OTC	P, S, SF, YA, A	RQF 4	Yes	Yes	No
254	56	F	I/V teacher	Keyboard	>40	C&OTC	P, S, SF, YA, A	RQF 8	Yes	Yes	No
255	50	F	I/V teacher	Keyboard	31-40	C	P, S, SF, YA, A	RQF 7	Yes	Yes	No
256	43	F	I/V teacher	Solo voice	11-20	C&OTC	S, SF, YA, A	RQF 6	No	Yes	Yes
257	29	M	I/V teacher	Solo voice	5-10	C	P, S, SF, YA, A	RQF 6	No	Yes	No
259	33	M	Teacher-who-performs	Plucked strings	5-10	OTC	S, SF, YA, A	RQF 3	Yes	No	No
260	40	M	Teacher-who-performs	Plucked strings	11-20	C&OTC	S, SF, YA, A	RQF 3	Yes	Yes	Yes
261	34	M	Teacher-who-performs	Plucked strings	11-20	OTC	S, SF, YA, A	RQF 6	Yes	Yes	Yes
262	53	M	Performer-who-teaches	Woodwind	31-40	C	SF, YA, A	RQF 6	Yes	Yes	Yes
264	63	F	I/V teacher	Solo voice	>40	C&OTC	S, SF, YA, A	RQF 6	No	Yes	No
265	50	M	Teacher-who-performs	Bowed strings	21-30	C	P, S, SF, A	RQF 8	Yes	Yes	Yes
266	20	M	Student musician	Brass	<1	C	YA	RQF 3	No	Yes	No
267	61	F	I/V teacher	Bowed strings	31-40	C&OTC	N, P, S, YA, A	RQF 7	Yes	Yes	Yes
268	51	M	Performer-who-teaches	Keyboard	31-40	C	YA, A	RQF 7	No	Yes	No
269	54	F	Musician	Plucked strings	31-40	C	P, S, SF, YA, A	RQF 6			

270	52	M	Teacher-who-performs	Keyboard	21-30	C	P, S, SF, YA, A	RQF 6	Yes	No	Yes
271	49	M	Teacher-who-performs	Music Tech.	11-20	OTC	S, SF, YA, A	RQF 7	Yes	No	Yes
272	53	F	Performer-who-teaches	Bowed strings	31-40	C&OTC	P, S, YA	RQF 6	No	No	Yes
273	43	F	Musician	Solo voice	21-30	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	No
274	30	M	Performer-who-teaches	Keyboard	11-20	C	P, S, SF, YA, A	RQF 6	Yes	No	No
275	37	F	I/V teacher	Bowed strings	11-20	C&OTC	All	RQF 6	Yes	No	Yes
276	25	F	Musician	Bowed strings	3-4	C	P, S, SF, YA, A	RQF 7	Yes	Yes	No
277	PND	F	I/V teacher	Bowed strings	11-20	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	No
278	62	F	Teacher-who-performs	Solo voice	11-20	C&OTC		RQF 6	No	No	No
279	47	F	I/V teacher	Woodwind	21-30	C&OTC	P, S, SF, A	RQF 6	Yes	Yes	No
280	48	F	Teacher-who-performs	Keyboard	21-30	C	P, S, SF, YA, A	RQF 7	Yes	No	No
282	32	F	Musician	Solo voice	5-10	C	P, S, SF, YA, A	RQF 7	No	No	No
283	70	M	Musician	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 4	Yes	Yes	No
284	61	F	I/V teacher	Keyboard	31-40	C&OTC	P, S, A	RQF 7	Yes	Yes	No
285	37	M	Performer-who-teaches	Keyboard	11-20	C	P, S, A	RQF 7	Yes	No	No
286	67	F	I/V teacher	Bowed strings	>40	C	N, P, S, SF	RQF 6	Yes	No	No
287	PND	PND	Ex-performer	Bowed strings	>40	C	P, S, SF, YA	RQF 6	No	Yes	Yes
288	71	M	Teacher-who-performs	Woodwind	>40	C		RQF 6	No	Yes	No
289	48	M	Performer-who-teaches	Orchestral percussion	21-30	C&OTC	S, SF	RQF 7	Yes	Yes	No
290	55	M	Musician	Brass	31-40	C&OTC	S, SF, YA	RQF 6	No	Yes	Yes
291	56	F	Musician	Bowed strings	31-40	C	P, S, SF, YA, A	RQF 7	No	Yes	No
294	>60	F	Performer-who-teaches	Bowed strings	>40	C	P, S, SF, A	RQF 7	Yes	No	Yes
295	28	F	I/V teacher	Bowed strings	5-10	C	P, S, YA, A	RQF 7	Yes	No	No
296	39	F	Musician	Woodwind	11-20	C	P, S, SF, YA, A	RQF 6			
297	67	M	Performer-who-teaches	Solo voice	>40	C&OTC	SF, YA, A	RQF 7	No	No	Yes
298	61	M	I/V teacher	Keyboard	31-40	C	P, S, SF	RQF 6	No	No	No
299	51	M	Teacher-who-performs	Brass	5-10	C&OTC	P, S, A	RQF 6	Yes	No	No
300	65	M	Musician	Brass	>40	C	P, S, SF	RQF 6	No	No	Yes
301	27	F	Teacher-who-performs	Woodwind	5-10	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No
302	59	F	Musician	Plucked strings	11-20	C&OTC	P, S, A	RQF 5	Yes	Yes	No
303	52	M	Trainer & manager	Plucked strings	31-40	C&OTC	P, S	RQF 6	Yes	No	No

304	29	F	Musician	Woodwind	5-10	C&OTC	P, S, SF	RQF 7	Yes	No	No
305	65	M	Musician	Keyboard & Voice	>40	C&OTC	S, SF, YA, A	RQF 7	Yes	No	No
306	43	F	Teacher-who-performs	Keyboard	11-20	C&OTC	All	RQF 3	No	Yes	Yes
308	54	F	I/V teacher	Solo voice	11-20	C&OTC	P, S, SF	RQF 6	No	No	No
309	33	M	Musician	Keyboard	5-10	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	No
310	62	F	I/V teacher	Keyboard	>40	C	S, SF, YA, A	RQF 8	Yes	No	Yes
311	55	F	I/V teacher	Choral voice	5-10	C&OTC	N, P, S, YA, A	RQF 6	Yes	Yes	Yes
313	52	M	Musician	Drum Kit	21-30	OTC	P, S, SF, YA, A	RQF 6	No	No	Yes
316	56	F	Teacher-who-performs	Plucked strings	5-10	C&OTC	S, A	RQF 5	No	Yes	No
317	31	M	Musician	Keyboard	5-10	C	P, S, SF, A	RQF 6	Yes	Yes	No
318	62	M	Performer-who-teaches	Keyboard	31-40	C&OTC	P, S, SF, YA, A	RQF 7	No	No	No
319	36	M	I/V teacher	Plucked strings	5-10	OTC	P, S, SF, YA, A	RQF 6	No	Yes	Yes
320	71	F	I/V teacher	Keyboard	>40	C	P, S, A	RQF 7	Yes	Yes	No
321	31	M	Musician	Keyboard	5-10	C	P, S, SF, A	RQF 6	Yes	No	No
323	38	F	Musician	Choral voice	11-20	C&OTC	P, S, SF, YA, A	RQF 6	Yes	No	Yes
324	29	F	I/V teacher	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 6			
325	62	F	Musician	Plucked strings	>40	C	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
327	59	F	Teacher-who-performs	Woodwind	31-40	C&OTC	P	RQF 6	Yes	Yes	Yes
328	66	M	Musician	Keyboard	>40	C	SF, YA, A	RQF 7	No	No	No
329	55	F	I/V teacher	All instruments	21-30	C&OTC	P, S, SF, YA, A	RQF 8	Yes	Yes	No
331	62	F	Musician	Bowed strings	>40	C&OTC	All	RQF 3	Yes	Yes	No
332	90	F	Musician	Keyboard	Other	C	YA, A	RQF 6	No	No	Yes
334	29	M	Performer-who-teaches	Brass	5-10	C&OTC	P, S, SF	RQF 6	Yes	Yes	No
335	42	F	I/V teacher	Solo voice	11-20	OTC	SF, YA, A	RQF 7	No	Yes	No
336	65	F	Musician	Bowed strings	21-30	C	S, SF, YA	RQF 6	Yes	No	Yes
337	60	M	Teacher-who-performs	Solo voice	11-20	C	SF, YA, A	RQF 7	Yes	Yes	Yes
339	37	F	I/V teacher	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	No
340	60	M	Musician	Drum Kit	11-20	OTC	P, S, SF, YA, A	RQF 6	Yes	No	Yes
341	56	F	Musician	Solo voice	31-40	C&OTC	P, S, SF, YA, A	RQF 6	Yes	No	No
342	40	M	Musician	Keyboard	3-4	C&OTC	P, S	RQF 4	Yes	No	No

343	43	F	I/V teacher	Plucked strings	21-30	C	P, S, SF, A	RQF 6			
344	47	M	I/V teacher	Woodwind	21-30	C&OTC	S, SF, YA	RQF 8	Yes	Yes	Yes
346	34	F	I/V teacher	Bowed strings	11-20	C	P, S, A	RQF 7	Yes	Yes	No
347	48	F	I/V teacher	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 5	Yes	No	No
348	39	M	Teacher-who-performs	Woodwind	11-20	C	P, S, SF, YA, A	RQF 7	No	Yes	Yes
351	64	F	Musician	Bowed strings	31-40	C	All	RQF 6	Yes	Yes	Yes
352	62	M	I/V teacher	Brass	31-40	C	SF, YA, A	RQF 6	No	Yes	No
355	63	F	Performer-who-teaches	Bowed strings	31-40	C	SF, YA, A	RQF 7	Yes	No	No
356	66	M	Teacher-who-performs	Solo voice	21-30	C	S, SF	RQF 6	Yes	No	No
358	60	F	Teacher-who-performs	Solo voice	21-30	C	YA, A	RQF 6	Yes	No	No
359	59	F	I/V teacher	Bowed strings	21-30	C	P, S, SF, YA, A	RQF 5	Yes	Yes	Yes
361	44	F	Performer-who-teaches	Percussion	11-20	C&OTC	YA, A	RQF 6	No	No	No
362	48	F	Musician	Keyboard	21-30	C&OTC	P, S, SF, YA, A	RQF 7	No	No	Yes
363	34	F	Musician	Bowed strings	11-20	C	P, S, SF, A	RQF 3	Yes	Yes	Yes
364	63	F	Teacher-who-performs	Solo voice	>40	C&OTC	P, S, SF, YA, A	RQF 3	No	No	No
365	41	F	I/V teacher	Keyboard	11-20	C	P, S, SF, A	RQF 7	Yes	Yes	No
366	62	F	Musician	Keyboard	31-40	C	N, P, S, YA, A	RQF 5	Yes	No	No
367	29	F	Musician	Bowed strings	3-4	C	P, S, A	RQF 7			
368	24	F	Performer-who-teaches	Woodwind	5-10	C	P, S, SF, YA	RQF 7	Yes	No	No
369	43	F	Variable depending on available work	Solo voice	21-30	C&OTC	S, SF, YA	RQF 7	Yes	Yes	Yes
373	46	M	Performer-who-teaches	Percussion	5-10	C&OTC	YA	RQF 6	No	No	No
374	63	F	I/V teacher	Solo voice	21-30	C&OTC	All	RQF 8	No	Yes	No
375	66	F	Teacher-who-performs	Keyboard	31-40	C	S, SF	RQF 7	Yes	Yes	Yes
377	67	F	Teacher-who-performs	Bowed strings	>40	C	P, S, SF, YA, A	RQF 7	No	No	No
378	62	M	I/V teacher	Plucked strings	31-40	C&OTC	P, S, SF, YA, A	RQF 3			
379	43	F	Classroom teacher	Woodwind	11-20	C	P, S, SF	RQF 8	No	No	No
380	49	F	Performer & vocal coach	Solo voice	21-30	OTC	SF, YA, A	RQF 7	No	Yes	Yes
381	68	M	Musician	Woodwind	11-20	C&OTC	P, S, A		Yes	Yes	Yes
382	22	M	Student musician	Bowed strings	1-2	C	P, S, SF, A	RQF 7	No	No	No
383	24	M	Performer-who-teaches	Woodwind	<1	C	P, S, SF	RQF 7	Yes	Yes	Yes

384	28	F	Student musician	Solo voice	5-10	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	Yes
386	33	F	I/V teacher	Keyboard	11-20	C&OTC	P, S, A	RQF 7	Yes	Yes	Yes
387	19	M	Student musician	Brass	3-4	C&OTC	P, S	RQF 3	Yes	No	No
388	56	F	I/V teacher	Keyboard	31-40	C&OTC	P, S, SF	RQF 7			
389	52	F	I/V teacher	Keyboard	21-30	C	P, S, SF, A	RQF 6	No	Yes	Yes
390	67	F	I/V teacher	Keyboard	>40	C	S, SF	RQF 6	Yes	No	No
391	54	M	Musician	Plucked strings	21-30	C&OTC	P, S, SF, YA, A	RQF 4	Yes	No	No
392	41	M	I/V teacher	Keyboard	11-20	C	P, S, SF, A	RQF 7	No	No	No
393	64	F	I/V teacher	Keyboard	31-40	C	N, P, S, SF, A	RQF 6	Yes	Yes	No
395	48	F	Musician	Choral voice	21-30	C	P, S, SF, YA, A	RQF 7	Yes	Yes	Yes
397	61	F	I/V teacher	Keyboard	31-40	C	All	RQF 5	No	Yes	No
399	58	F	I/V teacher	Brass	31-40	C&OTC	P, S, SF, YA, A	RQF 4			
400	60	M	Musician	Keyboard	31-40	C&OTC	P, S, SF, A	RQF 6	Yes	No	No
401	58	F	I/V teacher	Woodwind	31-40	C&OTC	All	RQF 7	Yes	No	Yes
402	54	F	I/V teacher	Solo voice	5-10	C&OTC	S, SF, YA, A	RQF 6	No	Yes	No
403	47	F	Teacher-who-performs	Solo voice	21-30	C&OTC	P, S, SF, YA, A	RQF 6	Yes	No	No
404	57	M	I/V teacher	Keyboard	11-20	C	P, S, A	RQF 6	No	No	No
405	55	M	Musician	Solo voice	31-40	C&OTC	SF, YA, A	RQF 6	Yes	No	No
406	54	F	Teacher-who-performs	Keyboard	31-40	C	P, S, SF, A	RQF 7	Yes	Yes	No
407	75	F	I/V teacher	Keyboard	>40	C&OTC	N, P, S, A	RQF 7	Yes	No	No
408	56	F	I/V teacher	Woodwind	31-40	C&OTC	P, S, SF, YA, A	RQF 8	Yes	Yes	No
409	63	F	I/V teacher	Keyboard	21-30	C	S	RQF 7	Yes	Yes	No
410	31	F	I/V teacher	Woodwind	5-10	C&OTC	P, S, SF, A	RQF 6	Yes	Yes	No
414	36	M	Musician	Brass	11-20	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
415	45	F	I/V & classroom teacher	Bowed strings	21-30	C	N, P, S, SF, A	RQF 6	No	Yes	Yes
416	55	F	Teacher-who-performs	Bowed strings	21-30	C	P, S, YA, A	RQF 5	Yes	Yes	No
417	49	F	Teacher-who-performs	Keyboard	21-30	C&OTC	All	RQF 6	Yes	Yes	No
418	18	F	Student musician	Woodwind	<1	C&OTC	P, S, A	RQF 6	Yes	No	No
420	31	F	Musician	Brass	11-20	C	P, S, SF, YA	RQF 7	Yes	Yes	Yes
421	48	F	Musician	Keyboard	21-30	C&OTC	P, S, A	RQF 6	Yes	Yes	Yes

422	57	F	Teacher-who-performs	Solo voice	31-40	C	P, A	RQF 7	Yes	Yes	No
424	21	F	Classroom teacher	Woodwind	1-2	C	S, A	RQF 6	Yes	Yes	No
425	50	F	Teacher-who-performs	Bowed strings	1-2	C&OTC		RQF 6	No	Yes	Yes
426	26	F	Musician	Keyboard	3-4	C	S, YA	RQF 8	Yes	No	No
427	31	F	Musician	Keyboard	5-10	C	P, S, A	RQF 7	Yes	Yes	No
429	51	F	Teacher-who-performs	Keyboard	31-40	C	P, S, SF, YA, A	RQF 6	Yes	No	Yes
430	64	F	Teacher-who-performs	Woodwind	31-40	C	P, S, SF, A	RQF 7	Yes	Yes	Yes
432	32	M	Musician	Woodwind	11-20	C&OTC	S, SF, YA, A	RQF 6	Yes	Yes	No
433	60	M	Musician	Bowed strings	31-40	C	P, S, SF, YA, A	RQF 4	No	Yes	Yes
435	33	M	I/V teacher	Solo voice	11-20	OTC	SF, YA, A	RQF 6	Yes	No	No
436	38	F	I/V teacher	Woodwind	5-10	C&OTC	P, S, A	RQF 6	Yes	Yes	Yes
437	55	M	Musician	Woodwind	31-40	OTC	S, SF, YA, A	RQF 6	Yes	Yes	Yes
438	56	M	Teacher-who-performs	Keyboard	21-30	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No
439	36	PND	Performer-who-teaches	Solo voice	11-20	C&OTC	S, SF, YA, A	RQF 7	Yes	Yes	No
440	23	M	I/V teacher	Drum Kit	5-10	OTC	N, P, S	RQF 6	Yes	No	No
441	31	M	I/V teacher	Plucked strings	11-20	C&OTC	P, S, SF, YA, A	RQF 3	No	No	No
442	25	M	Musician	Plucked strings	3-4	OTC	All	RQF 6	Yes	Yes	No
443	50	M	Musician	Voice, keyboard, guitar & percussion	21-30	OTC	P, S, A	RQF 6	No	Yes	No
444	56	M	I/V teacher	Woodwind	31-40	C&OTC	P, S	RQF 7	Yes	No	Yes
445	57	F	Teacher-who-performs	Bowed strings	21-30	C	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
446	35	F	Teacher-who-performs	Bowed strings	11-20	C&OTC	P, S, SF	RQF 7	Yes	Yes	No
447	29	F	Musician	Woodwind	5-10	C&OTC	N, P, S, SF, A	RQF 6	No	No	Yes
448	42	F	I/V teacher	Woodwind	11-20	C&OTC	P, S, SF, YA, A	RQF 6	No	No	No
449	44	F	Teacher-who-performs	Woodwind	21-30	C&OTC	P, S, A	RQF 5	Yes	No	No
450	64	M	Musician	Keyboard	31-40	C	P, S, SF, YA, A	RQF 8	No	No	No
451	52	F	Musician	Bowed strings	31-40	C	P, S, SF, A	RQF 7	Yes	Yes	No
452	64	F	I/V teacher	Solo voice	21-30	C	S, A	RQF 6	No	No	No
453	54	F	Performer-who-teaches	Bowed strings	31-40	C&OTC	P, S, YA	RQF 6	Yes	Yes	Yes
455	47	F	Teacher-who-performs	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 7	No	No	No

457	66	M	Instrumental & classroom teacher	Woodwind	>40	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	Yes
458	51	M	Teacher-who-performs	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 6	No	No	No
459	57	M	I/V teacher	Woodwind	31-40	C	P, S	RQF 7	Yes	Yes	No
460	49	F	Musician	Bowed strings	21-30	C	P, S, SF, A	RQF 6	No	Yes	Yes
463	38	M	Musician	Keyboard	21-30	C&OTC	S, SF, YA, A	RQF 7	Yes	No	No
464	55	F	Musician	Bowed strings	31-40	C&OTC	P, S, SF, YA, A	RQF 5	Yes	No	No
465	62	F	Musician	Solo voice	11-20	C	S, SF, YA, A	RQF 6	No	No	No
466	66	F	Musician	Bowed strings	>40	C&OTC		RQF 6	Yes	Yes	No
467	47	F	Teacher-who-performs	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	No
468	52	M	Musician	Keyboard	21-30	C&OTC	All	RQF 7	Yes	No	No
469	73	F	I/V teacher	Solo voice	>40	C	P, S, SF, YA, A	RQF 4	Yes	Yes	No
471	61	PND	Performer-who-teaches	Keyboard	5-10	C	SF, YA, A	RQF 6	Yes	Yes	Yes
473	56	F	Teacher-who-performs	Keyboard	31-40	C	S, SF	RQF 7	No	Yes	No
474	31	F	Performer-who-teaches	Bowed strings	5-10	C&OTC	N, P, S, SF, A	RQF 7	Yes	No	No
476	32	M	Musician	Brass	5-10	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
477	69	M	I/V teacher	Woodwind	>40	C	S, SF, A	RQF 3	Yes	No	Yes
478	49	F	Musician	Bowed strings	21-30	Early Music	YA, A	RQF 6	No	Yes	No
479	49	F	I/V teacher	Woodwind	5-10	C	P, S, SF, YA	RQF 6	Yes	Yes	No
480	73	F	I/V teacher	Bowed strings	31-40	C	N, P, S	RQF 3	No	No	No
483	47	M	Musician	Brass	21-30	C	SF, YA, A	RQF 7	Yes	No	No
484	36	F	Teacher-who-performs	Woodwind	11-20	C	P, S, SF, A	RQF 7	No	Yes	No
485	42	F	I/V teacher	Bowed strings	21-30	C	All	RQF 6	Yes	Yes	No
487	54	F	I/V teacher	Keyboard	21-30	C	P, S	RQF 7			
488	39	M	Musician	Bowed strings	11-20	C&OTC	S, SF	RQF 6	Yes	Yes	No
489	66	M	I/V teacher	Keyboard	>40	C	P, S, SF, A	RQF 7	Yes	Yes	No
490	48	F	Teacher-who-performs	Woodwind	21-30	C	P, S, SF	RQF 6			
492	33	M	I/V teacher	Bowed strings	5-10	C	P, S, SF, YA, A	RQF 7	Yes	Yes	No
493	67	M	Musician	Keyboard	31-40	C	P, S, SF, YA, A	RQF 7	Yes	Yes	No
494	64	F	I/V teacher	Keyboard	31-40	C&OTC	P, S, A	RQF 6	Yes	Yes	Yes
495	48	M	Performer-who-teaches	Keyboard	11-20	C	S, SF, YA, A	RQF 6	No	No	No

496	57	F	I/V teacher	Keyboard	31-40	C&OTC	N, P, S, YA, A	RQF 7	Yes	Yes	No
497	50	F	I/V teacher	Solo voice	11-20	C&OTC	S, SF, YA, A	RQF 6	No	No	No
498	55	F	I/V teacher	Woodwind	31-40	C&OTC	P, S, SF	RQF 7	Yes	Yes	Yes
500	50	F	I/V teacher	Bowed strings	31-40	C	N, P, S, SF, A	RQF 6	Yes	No	No
502	37	F	I/V teacher	Solo voice	11-20	C&OTC	All	RQF 7	Yes	No	Yes
503	66	F	Musician	Choral voice	>40	C&OTC	P, A	RQF 7	Yes	Yes	No
504	38	F	I/V teacher	Bowed strings	11-20	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No
505	51	F	I/V teacher	Bowed strings	21-30	C	All	RQF 6	Yes	No	No
506	32	F	Classroom teacher	Keyboard	5-10	C&OTC	S, SF, YA, A	RQF 7	No	Yes	Yes
507	39	F	Teacher-who-performs	Brass	11-20	C	P, S, SF, YA	RQF 7	Yes	Yes	No
509	55	F	I/V teacher	Keyboard	21-30	C&OTC	P, S, SF, A	RQF 6	Yes	No	No
510	33	F	I/V teacher	Plucked strings	11-20	C&OTC	P, S, SF, YA	RQF 6	Yes	Yes	Yes
511	55	F	I/V teacher	Bowed strings	31-40	C	All	RQF 7	Yes	No	No
512	49	F	Musician	Solo voice	21-30	C	P, S, SF, YA, A	RQF 6	Yes	No	No
513	56	F	Musician	Woodwind	21-30	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	No
515	57	F	I/V teacher	Solo voice	31-40	C&OTC	P, S, SF, YA, A	RQF 6			
516	35	F	Teacher-who-performs	Bowed strings	11-20	C&OTC	P, S, SF	RQF 7	Yes	Yes	No
517	45	M	I/V teacher	Woodwind	11-20	C&OTC	P, S, SF, YA	RQF 1			
518	39	M	Classroom teacher	Keyboard	5-10	C	YA, A	RQF 8	No	No	No
519	42	F	I/V teacher	Bowed strings	11-20	C	P, S, SF, YA, A	RQF 6	Yes	No	No
520	57	F	Teacher-who-performs	Bowed strings	21-30	C	P, S, A	RQF 6	Yes	No	No
522	44	F	Teacher-who-performs	Bowed strings	21-30	C	P, S, SF	RQF 6	No	No	No
524	46	F	Musician	Bowed strings	21-30	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	Yes
525	47	F	Teacher-who-performs	Woodwind	21-30	C&OTC	N, S, A	RQF 6	No	No	No
528	39	F	Musician	Woodwind	11-20	C	P, S, SF, A	RQF 8	No	No	No
529	50	F	I/V teacher	Keyboard	11-20	C&OTC	P, S, SF, YA, A	RQF 4	Yes	No	No
530	32	M	Performer-who-teaches	Keyboard	5-10	C&OTC	S, A	RQF 7	No	Yes	No
531	39	F	Musician	Woodwind	11-20	C&OTC	P, S, SF	RQF 7	No	Yes	No
532	38	F	Performer-who-teaches	Bowed strings	11-20	C	N, P, SF, A	RQF 6	Yes	No	No
533	49	F	Teacher-who-performs	Solo voice	21-30	C	P, S, SF, YA, A	RQF 6	Yes	No	No

535	35	F	I/V teacher	Keyboard	11-20	C&OTC	All	RQF 6	No	No	No
536	38	F	Performer-who-teaches	Solo voice	3-4	C	YA, A	RQF 7	Yes	Yes	Yes
537	57	F	I/V teacher	Keyboard	31-40	C	P, S, SF, YA, A	RQF 6	No	No	No
539	68	F	Teacher-who-performs	Solo voice	>40	C&OTC	S, SF, YA, A	RQF 7	No	No	No
540	47	M	Musician	Keyboard	21-30	C&OTC	P, S, SF, A	RQF 6	No	No	No
541	37	M	Musician	Woodwind	11-20	C&OTC	P, S, SF, YA	RQF 8	No	Yes	Yes
542	67	F	I/V teacher	Keyboard	31-40	C&OTC	P, S, A	RQF 8	Yes	Yes	No
543	40	F	Teacher-who-performs	Keyboard	11-20	C	S, SF, YA	RQF 7	Yes	No	No
544	34	F	Musician	Woodwind	11-20	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	No
545	24	F	Teacher-who-performs	Solo voice	3-4	C&OTC	S, YA, A	RQF 6	Yes	No	No
547	51	F	Musician	Keyboard	21-30	C	P, S, SF, YA, A	RQF 6	No	No	No
548	50	F	Instrumental & classroom teacher	Brass	21-30	C	N, P, S, A	RQF 6	No	No	Yes
549	61	F	I/V teacher	Keyboard	31-40	C&OTC	P, S, SF, A	RQF 7	Yes	Yes	Yes
551	43	F	Performer-who-teaches	Solo voice	11-20	C&OTC	S, SF, YA, A	RQF 4			
552	48	M	Performer-who-teaches	Keyboard	31-40	C	S, YA, A	RQF 6	No	No	Yes
553	56	F	Teacher-who-performs	Brass	21-30	C	P, S, SF, YA, A	RQF 6	Yes	Yes	Yes
554	49	F	Performer-who-teaches	Woodwind	5-10	C	P, S, A	RQF 7	Yes	No	No
555	49	M	Musician	Solo voice	31-40	C&OTC	SF, YA, A	RQF 8	Yes	No	No
556	57	F	I/V teacher	Keyboard	31-40	C&OTC	P, S, SF	RQF 6	Yes	Yes	No
557	42	F	Performer-who-teaches	Woodwind	21-30	C	P, S, SF, YA, A	RQF 7	Yes	Yes	Yes
558	52	F	Performer-who-teaches	Keyboard	31-40	C&OTC	S, SF, YA, A	RQF 7	Yes	No	No
559	59	F	Teacher-who-performs	Keyboard	31-40	C	P, S, SF, A	RQF 6	Yes	Yes	No
560	49	F	I/V teacher	Keyboard	21-30	C&OTC	P, S, SF, YA, A	RQF 4	No	Yes	No
561	21	F	Student musician	Woodwind	3-4	C	SF, YA	RQF 6	Yes	No	No
562	28	F	Musician	Drum Kit	5-10	C&OTC	P, S, SF, YA	RQF 7	Yes	No	No
563	63	F	I/V teacher	Keyboard	31-40	C&OTC	S, SF	RQF 5	Yes	Yes	Yes
564	50	F	Classroom teacher	Bowed strings	21-30	C&OTC	S	RQF 7	Yes	No	Yes
566	53	F	I/V teacher	Solo voice	21-30	C&OTC	P, S, SF, YA, A	RQF 6	Yes	No	No
567	70	M	Musician	Keyboard	>40	C	S, YA, A	RQF 7	Yes	Yes	Yes
568	24	M	Musician	Plucked strings	5-10	C	P, S, SF, YA, A	RQF 6	Yes	Yes	No

569	41	F	Teacher-who-performs	Woodwind	11-20	C	P, S	RQF 7	Yes	Yes	No
570	41	F	Musician	Plucked strings	21-30	C&OTC	P, S, SF, YA, A	RQF 6	Yes	Yes	No
571	23	M	Performer-who-teaches	Woodwind	5-10	C&OTC	S, SF, YA, A	RQF 7	No	No	No
572	22	M	Performer-who-teaches	Bowed strings	1-2	C	YA, A	RQF 6	No	No	No
573	24	M	Musician	Choral voice	3-4	C	P, S, SF, YA, A	RQF 6	Yes	No	No
574	25	M	Performer-who-teaches	Woodwind	5-10	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	Yes
575	35	F	Musician	Woodwind	11-20	C&OTC	All	RQF 6	Yes	Yes	No
577	23	F	Musician	Solo voice	<1	C&OTC	S, SF, YA, A	RQF 6	No	No	No
578	25	F	Musician	Woodwind	5-10	C&OTC	P, S, SF, YA, A	RQF 7	Yes	Yes	No
579	25	F	Music therapist & teacher	Keyboard	1-2	C&OTC	P	RQF 7	Yes	No	No
580	24	M	Musician	Brass	3-4	C&OTC	All	RQF 6			
583	30	M	Musician	Plucked strings	11-20	OTC	P, S, SF, YA, A	RQF 7	Yes	No	Yes
584	33	F	Teacher-who-performs	Bowed strings	11-20	C&OTC	N, P, S, SF	RQF 7	No	Yes	No
585	42	F	I/V teacher	Bowed strings	21-30	C&OTC	P, S, SF, YA, A	RQF 7	Yes	No	No
586	32	F	I/V teacher	Keyboard	5-10	C	All	RQF 7	Yes	No	No
587	62	F	Musician	Keyboard	>40	C	P, S, SF, YA, A	RQF 7	Yes	No	No
588	66	M	Musician	Drum Kit	11-20	C&OTC	P, S, SF, YA, A	RQF 2	Yes	No	No
590	61	F	Musician	Keyboard	31-40	C	P, S, SF, A	RQF 7	Yes	Yes	No
591	48	M	Teacher-who-performs	Keyboard	21-30	C	S, SF, YA, A	RQF 7	Yes	Yes	No
593	44	M	Teacher-who-performs	Bowed strings	21-30	C	P, S, SF	RQF 6	Yes	Yes	Yes
594	55	F	I/V teacher	Solo voice	31-40	C	S, SF, YA, A	RQF 7	Yes	Yes	No
595	56	M	Teacher-who-performs	Keyboard	21-30	C	P, S, SF	RQF 7	Yes	No	No
596	73	F	Teacher-who-performs	Solo voice	>40	C	P, S, SF, A	RQF 7	Yes	Yes	Yes
597	52	F	I/V teacher	Keyboard	11-20	C&OTC	P, S, A	RQF 6	Yes	Yes	No
598	41	F	I/V teacher	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 8	Yes	No	No
600	29	F	Musician	Keyboard	5-10	C	N, S, A	RQF 7	Yes	Yes	No
601	50	F	I/V teacher	Solo voice	31-40	C	P, S, SF, YA, A	RQF 7	Yes	No	No
602	37	F	Teacher-who-performs	Solo voice	11-20	C&OTC	P, S, SF, YA, A	RQF 6	No	Yes	No
603	27	F	Performer-who-teaches	Bowed strings	5-10	C&OTC	P, S, YA, A	RQF 7	Yes	No	No
604	23	F	Performer-who-teaches	Bowed strings	3-4	C&OTC	P, YA, A	RQF 6	Yes	Yes	Yes

605	37	M	I/V teacher	Plucked strings	3-4	OTC	P, S, SF	RQF 3	Yes	No	Yes
606	31	F	Performer-who-teaches	Bowed strings	5-10	C	P, S, SF, A	RQF 7	Yes	No	No
607	58	F	Teacher-who-performs	Solo voice	31-40	C&OTC	N, YA, A	RQF 6	Yes	Yes	No
608	49	F	I/V teacher	Woodwind	11-20	C	P, S, SF, A	RQF 4	Yes	Yes	Yes
609	75	F	Musician	Solo voice	>40	C&OTC	YA, A	RQF 8	No	No	No
610	52	M	I/V teacher	Woodwind	21-30	C&OTC	P, S	RQF 7	Yes	Yes	No
611	60	F	I/V teacher	Bowed strings	31-40	C	P, S, A	RQF 7	Yes	Yes	No
612	66	F	Teacher-who-performs	Keyboard	>40	C	P, S, SF, YA, A	RQF 5	Yes	No	No
613	34	F	Composer who teaches	Keyboard	3-4	C&OTC	S, YA, A	RQF 7	Yes	Yes	No
614	65	M	Kodaly practitioner, teacher trainer, performer	Early childhood & wind band	>40	C&OTC	All	RQF 6	No	No	No
615	38	F	Musician	Bowed strings	11-20	C	P, S, A	RQF 7	Yes	Yes	Yes
616	51	F	Teacher-who-performs	Bowed strings	1-2	C	P, S, SF, YA, A	RQF 7	Yes	No	No
617	62	M	I/V teacher	Plucked strings	>40	C&OTC	P, S, SF, YA, A	RQF 8	No	Yes	No
618	24	M	I/V teacher	Keyboard	5-10	C	P, S	RQF 1	No	No	No
619	40	F	Musician	Solo voice	5-10	C&OTC	P, S, SF, YA, A	RQF 6	No	Yes	No
620	46	F	Musician	Woodwind	21-30	C	P, S, SF, YA, A	RQF 7	Yes	Yes	No
621	61	F	Musician	Bowed strings	>40	C&OTC	S, SF, A	RQF 6	Yes	Yes	No
623	33	F	Musician	Solo voice	3-4	C&OTC	P, S, SF, YA, A	RQF 1	Yes	Yes	No
624	47	F	Performer-who-teaches	Solo voice	21-30	C&OTC	S, YA, A	RQF 7	No	No	No
625	54	F	Performer-who-teaches	Plucked strings	31-40	OTC	S, SF, YA, A	RQF 8	No	No	Yes
626	50	F	Performer-who-teaches	Keyboard	31-40	C	P, S, SF, YA, A	RQF 7	Yes	Yes	No
627	50	F	I/V teacher	Drum Kit	21-30	C&OTC	P, S	RQF 6	Yes	No	No
628	25	M	Teacher-who-performs	Free reed instrument	5-10	OTC	YA, A	RQF 1	Yes	Yes	Yes
629	34	M	Classroom teacher	Keyboard	5-10	C	N, P	RQF 7	Yes	Yes	No

Appendix D: Named providers of instrumental/vocal CPD

- Association of teachers of singing (AOTOS)
- Associated board of the royal schools of music (ABRSM)
- British Dyslexic Society
- British Flute Society (BFS)
- The British Kodály Academy
- British Suzuki Institute
- British Voice Association (BVA)
- City Literary Institute (CityLit)
- Colourstrings and The Szilvay Foundation
- The DaCapo Music Foundation
- Dalcroze UK
- Dartington College of Arts
- Estill Voice International
- European String Teachers Association
- European Piano Teachers Association
- Goldsmiths, University of London
- Guildhall School of Music and Drama
- Horizon Teachers
- International Guitar Foundation
- Music Leader, Youth Music Network
- National Youth Choirs of Great Britain and Scotland
- Natural Voice Practitioners' Network
- Orff UK
- Rhinegold Publishing
- Royal Academy of Music
- Royal College of Music
- Royal Conservatoire of Scotland
- Royal Northern College of Music
- Scottish Association for Music Education
- Sing for Pleasure
- Sing Up
- Sound Connections
- Tapestry Foundation for Health Care
- Trinity College London
- Tower Hamlets Strings Project
- University of the First Age
- Workers' Educational Association
- Voice Care Network UK
- Voiceworks
- Vocal Process
- The Voices Foundation

Appendix E: Copy of the interview schedule (template)

Interview Schedule

Introduction

Welcome, my name is Naomi Norton, I am the primary researcher in this study as it forms part of my PhD research. During the course of this interview you will be asked questions about your musical life, performance-related problems, health education, and your beliefs and practices in relation to health education and support. I would like to reassure you that all answers will be kept confidential, that this interview is designed as a discussion not an evaluation and that I am most interested in teachers' honest views on this important subject. If at any point you are not comfortable answering a question please just tell me and we'll move on. All information that is gathered in this interview will remain confidential and you will not be identifiable in any reports or publications.

You will be offered the opportunity to read the transcript of this interview and verify that the transcription is accurate; at this point you will also be offered the opportunity to remove any parts of the interview that you do not wish to be included in subsequent reports and publications.

I have read your response to the online survey as we are likely to discuss those responses throughout the course of the interview, is there anything in particular from the survey that you would not like to discuss today?

Do you have any questions about this process or your involvement in the research?

I would like to record this interview to aid the analysis process, are you happy for me to do so?

Musician and Teacher

- You described yourself on the survey as **[insert identity]**:
 - Prompt questions: What came first? How did this profile develop? What is the ratio of activities?
- Why did you start teaching music?
 - Have your reasons for teaching changed since you started teaching?
- You've been teaching for **[insert years' experience]**, and on the survey you indicated that you had completed **[insert qualifications and courses]**.
 - Which of these experiences were the most useful in preparing you to teach?
- Have your instrumental/vocal teaching strategies and beliefs changed since you started teaching?
 - How have they changed?
 - What types of experiences have influenced your teaching strategies and beliefs?
- Have you had any further thoughts regarding whether or how music teachers in the UK should be assessed and/or qualified?

Musical performance and performance-related problems

- To what extent do you think that being a musician is a physically demanding activity?
 - Prompt question: Do you think of yourself as a 'Musical Athlete'?

- To what extent do you feel that you are knowledgeable about performance-related problems?
 - How have you learnt about this subject?
 - What do you think the risk factors might be for developing problems?
 - What kind of impact do you think such problems could have on a musician?
 - What type of problem do you think is the most serious for musicians?
Physical/psychological
 - What percentage of the musical population do you think are affected by performance-related problems?
 - Do you think the percentage is higher or lower than the general population?
 - At what age do you think problems can or do begin to develop?
- Are you aware of any organisations or resources that provide advice and support for musicians with performance-related problems?
 - How did you become aware of these resources/organisations?
 - Have you used any of these services yourself?
- **If relevant:** When you experienced [insert PRP] who did you go to for advice? Would you go to them again? Who would recommend to go to for advice? Would you ask a teacher for advice?)

Performance related problems in pupils

- One of the questions on the online survey related to whether instrumental/vocal teachers are responsible for their pupils' health and well-being; have you had any further thoughts about this?
- **If relevant:** You mentioned in the survey that some of your pupils have experienced or reported problems:
 - What did you do in that situation?
 - Would you handle the situation any differently now?
- Do you tend to discuss performance-related problems or risk factors with your pupils?
- Would you be interested in learning more about performance-related problems and preventative techniques?
 - If you were to seek out more information about these topics where would you go?

Teachers as health promotion advocates

Performing arts medicine specialists are health care professionals who have chosen to specialise in the treatment/management of performance-related problems amongst performing artists. Many specialists and researchers in the performing arts medicine field are suggesting that instrumental/vocal music teachers should act as active members in a multi-disciplinary team aiming to decrease the number of performance-related problems amongst musicians.

- Do you think that this is reasonable and appropriate?
- What do you think this role might include?
- To what extent do you believe that teachers are already engaging in this role?
- To what extent do you believe that the training and support currently provided to teachers is adequate to carry out this role safely and effectively?

Debrief

- Thank you for your time.
- Do you have any further comments or questions about health education and support for musicians?
- Do you have any further questions about this research or your participation in this study?

Appendix F: Survey information for interview (template)

Information from Survey

General Information:

- Professional profile:
- Genre:
- Instrument(s):
- Experience:
- Age of pupils:
- Type of lesson environment experienced:
- Performance experience:

Qualifications

- Musical:
- Academic:
- Teaching:
- Beliefs on min qual:

Performance related problems:

- Physical/Hearing:
- Historical and current MPA:
- NIHL:

Teachers' role regarding health education

- To what extent are they responsible?
- Expand:
- Adapt environment?
- Discuss performance-related problems?
- Give advice?

Existing knowledge and awareness of health support and education

- Heard of which orgs?
- Where is existing info from?
- Heard of books?
- Web resources:

Interest in further education/training

- Interested in learning more?
 - For pupils:
 - For self:
- Where want more info from?
- When best to receive information about health?
- Useful techniques and activities:

Appendix G: Websites that provide health-related advice

- www.abrsm.org/forum
- www.aotos.org.uk
- www.bamt.org
- www.bapam.org.uk
- www.britishvoiceassociation.org.uk
- www.helpmusicians.org.uk
- www.ism.org
- www.musicandhealth.co.uk
- www.musiciansunion.org.uk
- www.musiciansway.com
- www.musicteachers.co.uk
- www.musicteachershelper.com
- www.practisingthepiano.com
- www.singup.org
- www.sound-connections.org.uk
- www.trumpetguild.org
- www.trumpetherald.com
- www.thevoiceexplained.com
- [www.voice care network.co.uk](http://www.voicecarenetwork.co.uk)

Appendix H: Pilot study summary

Research aim

The primary aim of this study was to generate a list of books that are currently available and in circulation amongst teachers and HCPs for use in the survey study.

Method

Participants

A purposive sampling method was used to recruit instrumental/vocal music teachers and healthcare professionals involved in performing arts medicine (PAM). Invitations were distributed via email to 40 instrumental/vocal teachers who had participated in previous studies conducted by the researcher (and indicated their willingness to participate in future research), teachers at the Junior and Senior RNCM and all members of the BAPAM Directory of Performing Arts Medicine health practitioners and specialists. A recruitment email containing brief details of the project and an invitation to participate was sent to representatives of the target populations with an attached letter that included comprehensive details about the researcher and project, and a link to the online survey. Sixty respondents completed the survey from beginning to end. There were roughly equal numbers of male (n=29, 48%) and female (n=31, 52%) respondents ranging in age from 22 to 73 years (mean=49.88, SD=12.75). Respondents represented various professions that have been grouped into 3 categories; teachers (n=27), healthcare professionals (HCP; n=23) and healthcare professionals who also teach music (HCP/teacher; n=10). Table 1 shows a breakdown of age and gender between the three separate discipline groups.

Table 1: Gender and age distribution according to discipline

Profession category	Male	Female	Age range (in years)	Mean age (SD)
Teachers	12	15	23 – 73	46.37 (12.93)
Health care professionals	13	10	32 – 69	54.09 (10.36)
Health care professionals/music teachers	4	6	22 – 65	49.67 (15.75)

Materials and procedure

The online survey was developed by the researcher based on previous literature and professional knowledge. The initial survey page included demographic data such as sex, age and occupation.¹¹⁶ Respondents were invited to indicate whether they had heard of, read, or currently owned copies of a list of 19 books. This list was compiled by the

¹¹⁶ A list of anticipated professions was provided by the researcher; respondents could either tick the relevant check box or write their own response using the 'Other' box provided. The list of anticipated professions was compiled using knowledge of the target sample (i.e. instrumental teacher, vocal teacher, classroom music teacher, lecturer in a music-related subject) and consultation of the BAPAM Directory of Performing Arts Medicine health practitioners and specialists which lists members by discipline.

researcher following a review of the relevant literature: many key texts were included but the list was intended to act as an aide memoire and starting place for respondents. A text box was provided for respondents to list any extra resources. The survey was hosted online by the survey software package eSurveysPro between 21st May and 27th June 2013.

Data analysis

Quantitative data were analysed using descriptive statistics within the Statistical Package for the Social Sciences (SPSS) software. Qualitative data gathered in response to open-ended questions were thematically analysed (Braun & Clarke, 2006).

Key results

Awareness of health education books

Survey respondents indicated whether they had heard of, read or owned a copy of the following books¹¹⁷:

5. *Performance strategies for musicians* (Buswell, 2006)
6. *Hearing loss in musicians: Prevention and management* (Chasin, 2009)
7. *Fit as a fiddle: The musician's guide to playing healthy* (Dawson, 2008)
8. *Indirect procedures: A musician's guide to the Alexander Technique* (de Alcantara, 1997)
9. *Performance success: Performing your best under pressure* (Greene, 2002)
10. *Playing (less) hurt: An injury prevention guide for musicians* (Horvath, 2010)
11. *How muscles learn: Teaching the violin with the body in mind* (Kempter, 2003)
12. *The psychology of music performance anxiety* (Kenny, 2011)
13. *The musician's way: A guide to practice, performance and wellness* (Klickstein, 2009)
14. *You are your instrument* (Lieberman, 1989)
15. *Diagnosis and correction of vocal faults* (McKinney, 1994)
16. *The musician's survival manual* (Norris, 1993)
17. *The athletic musician: A guide to playing without pain* (Paull & Harrison, 1997)
18. *The musician's body: A maintenance manual for peak performance* (Rosset i Llobet & Odam, 2007)
19. *Functional disorders in musicians* (Tubiana, 2001)
20. *The biology of musical performance and performance-related injury* (Watson, 2009)
21. *Musical excellence: Strategies and techniques to enhance performance* (Williamon, 2004)
22. *Psychology for performing artists* (Wilson, 2002)
23. *The musician's hand: A clinical guide* (Winspur & Wynn Parry, 1998)

Only six of the 27 teachers (22.2%) owned one or more of the listed books whereas 14 of the 23 HCPs (60.9%), and five of the 10 HCP/teachers (50%) owned at least one. Figure 1 shows the number of teachers, HCPs and HCP/teachers who owned each book.

¹¹⁷ The order in which books were presented to respondents was varied randomly using the 'randomize row label' function in the survey software.

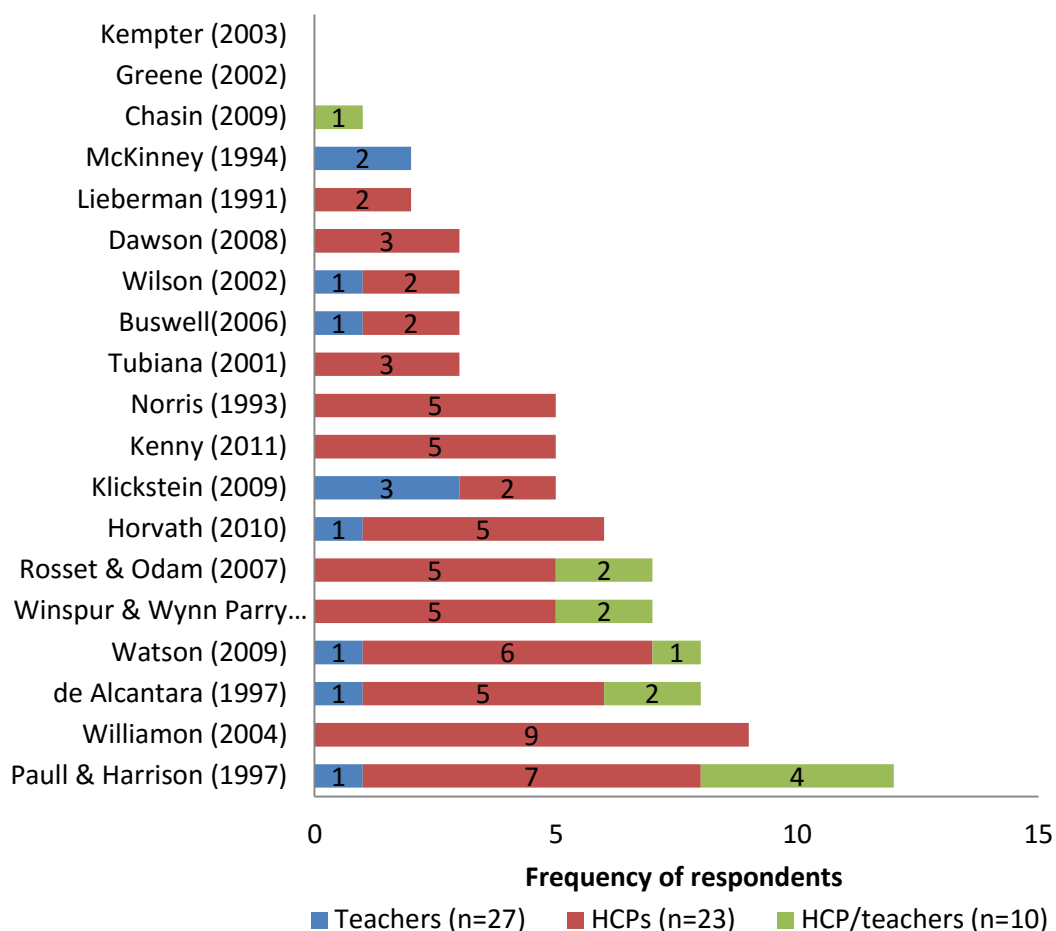


Figure 1: Number of survey respondents who owned each book on the selected list

Respondents also indicated whether they had read some/all of a book or whether they had heard of it. Only six teachers had read all or some of one or more of the selected books compared to 15 HCPs and five HCP/teachers. Ten teachers had heard of one or more of the books (37%) as had 18 HCPs (78%) and 6 HCP/teachers (60%). Only two teachers owned more than one listed book whereas 10 HCPs and four HCP/teachers owned more than one listed book each.

Paull and Harrison (1997) was owned by 12 respondents (one teacher, seven HCPs and four HCP/teachers) making it the most commonly owned book. Two of the books were not owned by any respondents (Greene, 2002; Kempter, 2003) and six books were owned by less than five respondents. Klickstein (2009) was owned by the larger number of teachers (owned by three teachers), Williamon (2004) by the largest number of HCPs (owned by nine HCPs) and Paull & Harrison (1997) by the largest number of HCP/teachers (owned by four HCP/teachers). Figure 2 shows the overall popularity of the books in this pilot study in terms of the number of respondents who owned each book, plus those who had read some/all of it and those who had heard of it.

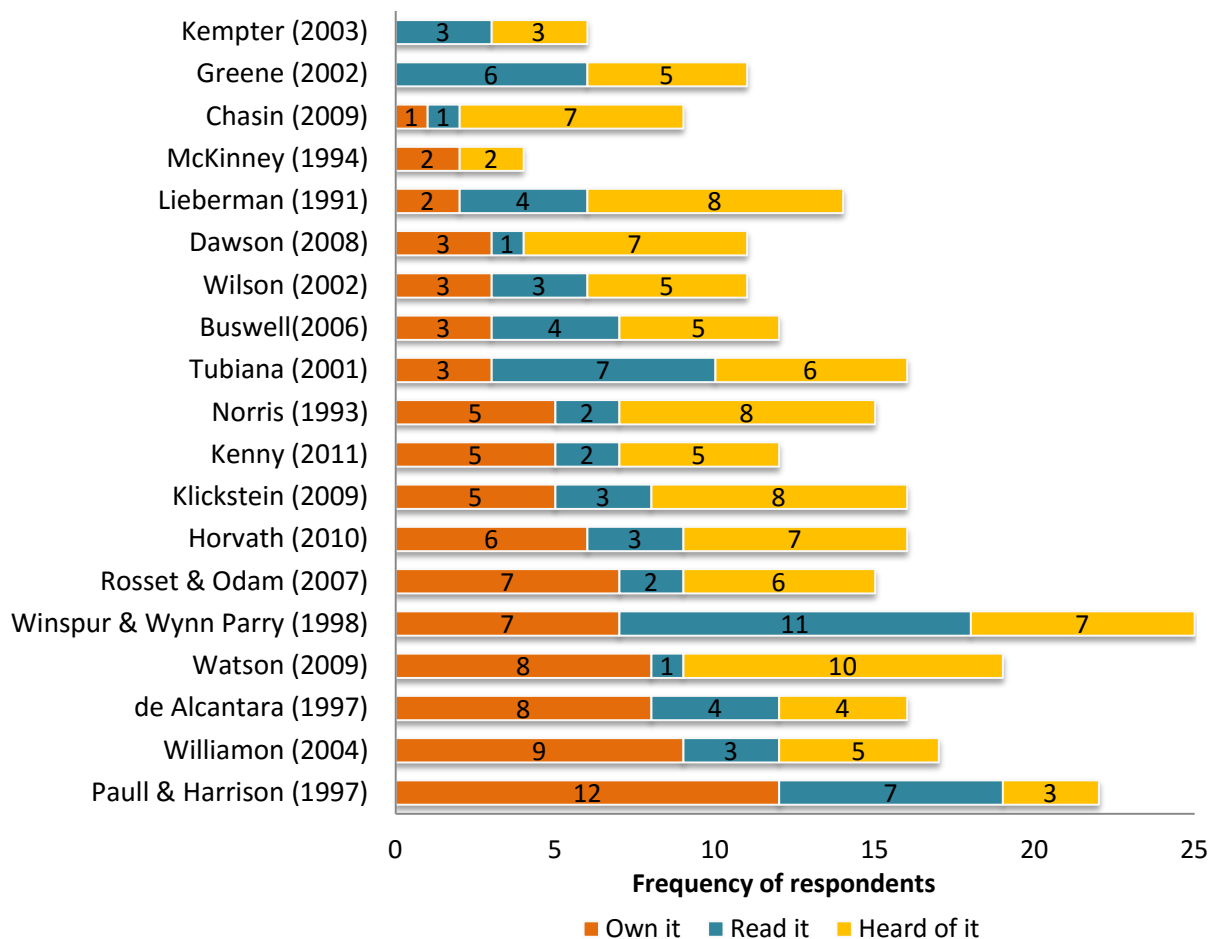


Figure 2: Awareness of listed books in terms of the number of respondents who own, have read or heard of each book

Whereas the book by Paull and Harrison (1997) was owned by the largest number of respondents, the largest number of respondents was aware of Winspur and Wynn Parry’s (1998) book. Quite a few respondents were actually aware of the two books that none of the respondents owned (Kempton, 2003 and Greene, 2002).

Following the matrix question asking respondents to indicate whether they had heard of, read or owned a copy of the 19 selected books, respondents had the opportunity to write suggestions for any additional books that were not included in the list. Four teachers provided references to 11 health education books, 12 HCPs gave references to 16 books and three HCP/teachers referred to 10 books. Lists of these extra books are shown on the next page.

Extra books that teachers suggested

24. *The theory and practice of vocal psychotherapy: Songs of the self* (Austin, 2008)
25. *Is your voice telling on you: How to find and use your natural voice* (Boone, 1997)
26. *The secrets of musical confidence* (Evans, 2003)
27. *The inner game of music* (Green & Gallwey, 1986)
28. *Tensions in the performance of music: A symposium* (ed. Grindea, 1995)
29. *Stagefright: Its causes and cures, with special reference to violin playing* (Havas, 1973)
30. *The voice book* (McCallion, 1998)
31. *The Alexander Technique: A practical approach to health, poise and fitness* (MacDonald, 1998)
32. *Singing with your whole self: The Feldenkrais method and voice* (Nelson & Blades-Zeller, 2001)
33. *Body mapping for flutists: What every flute player needs to know about the body* (Pearson, 2006)
34. *Voice work* (Shewell, 2009)

Extra books that healthcare professionals suggested

35. *The art of practicing: A guide to making music from the heart* (Bruser, 1997)
36. *Kinetic control: The management of uncontrolled movement* (Comerford & Mottram, 2012)
37. *How to learn the Alexander Technique: A manual for students* (Conable & Conable, 1995)
38. *What every musician needs to know about the body* (Conable & Conable, 2000)
39. *Care of the professional voice* (Davies & Jahn, 2004)
40. *The secrets of musical confidence* (Evans, 2003)
41. *The inner game of music* (Green & Gallwey, 1986)
42. *Tensions in the performance of music: A symposium* (ed. Grindea, 1995)
43. *Voice and the Alexander Technique* (Heirich, 2011)
44. *Mastering creative anxiety* (Maisel, 2011)
45. *Sports nutrition for health and performance* (Manore & Thompson, 2000)
46. *Complete vocal technique* (Sadolin, 2012)
47. *Performing arts medicine* (ed. Sataloff, Brandfonbrener & Lederman, 2010)
48. *Healthy string playing* (String Letter Publishing, 2007)
49. *Medical problems of the instrumentalist musician* (Tubiana & Amadio, 2000)
50. *The percussionists' guide to injury treatment and prevention: The answer guide for drummers in pain* (Workman, 2006)

Extra books that healthcare professionals who teach music suggested

51. *Dr Ali's ultimate back book: a unique integrated programme featuring diet, yoga and massage* (Ali, 2001)
52. *Healthy practice for musicians* (Andrews, 1997)
53. *Musicians' injuries: A guide to their understanding and prevention* (Culf, 1998)
54. *Integrated practice* (de Alcantara, 2011)
55. *Indirect procedures* (de Alcantara, 2013)
56. *The secrets of musical confidence* (Evans, 2003)
57. *Sports injuries: A self-help guide* (Grisogono, 1989)
58. *Mind and muscle: An owner's handbook* (Langford, 2008)
59. *Managing stress* (Looker & Gregson, 1997)

Selection of books for use in survey study

The key aim of this study was to compile a shortlist of books that would be included in the survey study. This list would be used to investigate whether a large sample of UK

instrumental/vocal teachers were aware of health-related books that were available and in circulation at the time of the research. Three criteria were used to select the shortlist; popularity, publication date and appropriateness. In conjunction with the original literature review, the pilot study assessed the popularity of health education resources amongst teachers and health care professionals. A limit was set on the initial publication date; resources that had been published pre-1994 (two decades before the study) were excluded. Appropriateness was judged based on the intended readership of the book, expense, availability, and the inclusion of health-relates content. Resources that were aimed at medically qualified personnel, cost more than £40 to buy new, were not readily available within the UK and did not include sufficient information relating to health were excluded; based on these criteria the resources in Table 2 were excluded.

Table 2: Summary of information about books excluded from the shortlist

Author(s)	Publication date	Popularity	Approx. cost [^]
Winspur & Wynn Parry	1998	Owned by >5 PSR*	£90
Norris	1993	Owned by >5 PSR	Out of print
Tubiana	2001	Owned by <5 PSR	Unavailable
Lieberman	1991	Owned by <5 PSR	£15
Chasin	2009	Owned by <5 PSR	£45
McKinney	1994	Owned by <5 PSR	£20
Buswell	2006	Owned by <5 PSR	£10
Wilson	2002	Owned by <5 PSR	£35
Dawson	2008	Owned by <5 PSR	£12
Greene	2002	Owned by 0 PSR	£15
Kempter	2003	Owned by 0 PSR	£10
Grindea	1995	Suggested by 2 PSR	£5
Sataloff, Brandfonbrener, & Lederman	2010	Suggested by 2 PSR	\$180
Tubiana & Amadio	2000	Suggested by 2 PSR	£160
Green & Gallwey	1986	Suggested by 2 PSR	£5

*PSR stands for pilot study respondent

[^] Approximate cost is based on the average price the book was available for on www.amazon.co.uk.

Davies and Jahn (2004) and McCallion (1998) were excluded because other books that were deemed more appropriate to the context of instrumental/vocal music lessons were included instead. Kenny (2011) was published recently, is relevant to the context of instrumental/vocal lessons, costs less than £40 and was owned by 5 pilot study respondents (PSR); however fewer respondents were aware of it compared to other books that were included in the study. The following eleven books were selected for inclusion in the survey based on their popularity, publication date and appropriateness to the context of instrumental/vocal music lessons:

60. *Singing and teaching singing* (Chapman, 2011)
61. *Musical excellence: Strategies and techniques to enhance performance* (Williamon, 2004)
62. *The musician's body: A maintenance manual for peak performance* (Rosset i Llobet & Odam, 2007)
63. *The musician's way: A guide to practice, performance, and wellness* (Klickstein, 2009)
64. *What every musician needs to know about the body* (Conable & Conable, 2000)
65. *What every singer needs to know about the body* (Malde, Allen, & Zeller, 2013)
66. *Secrets of performing confidence: For musicians, singers, actors and dancers* (2nd ed., Evans & Evans, 2013)
67. *The athletic musician: A guide to playing without pain* (Paull & Harrison, 1997)
68. *The biology of musical performance and performance-related injury* (Watson, 2009)
69. *Indirect procedures: A musician's guide to the Alexander Technique* (2nd ed., de Alcantara, 2013)
70. *Playing (less) hurt: An injury prevention guide for musicians* (Horvath, 2010)

Table X: Summary of publication, popularity and approximate cost of shortlisted books

Author(s)	Publication date	Popularity	Approx. cost
Paull & Harrison	1997	Owned by <10 PSR	£25
Williamon	2004	Owned by <5 PSR	£38
Watson	2009	Owned by <5 PSR	£35
de Alcantara	2013	Owned by <5 PSR	£30
Rosset i Llobet & Odam	2007	Owned by <5 PSR	£20
Horvath	2010	Owned by <5 PSR	£10
Klickstein	2009	Owned by 5 PSR	£15
Chapman	2011	Suggested by 2 PSR	£35
Evans & Evans	2013	Suggested by 3 PSR	£10
Conable & Conable	2000	'What every...'	£25
Malde, Allen, & Zeller	2012	series suggested by 4 PSR	£30

Appendix I: Book evaluation study information for publishers

Naomi Norton
ADDRESS
EMAIL ADDRESS
MOBILE NUMBER
DATE

Dear Sir/Madam

**RE: PhD research project investigating health education resources for use by
instrumental/vocal music teachers**

I am writing to invite you to participate in a PhD research project that is taking place at the Royal Northern College of Music in Manchester. This project is entitled *Health education in instrumental and vocal music lessons: the teacher's perspective* and is supervised by Professor Jane Ginsborg, Dr Alinka Greasley, and Dr Islay McEwan and funded by the Arts and Humanities Research Council.

The project aims to investigate the views, opinions and practises of instrumental and vocal music teachers in the United Kingdom regarding health education in music lessons. Part of this project is a review of the health education resources that are currently available for musicians, followed by an evaluation of those resources for use by instrumental/vocal teachers in their music lessons. A pilot study conducted with a selection of teachers and performing arts medicine specialists has highlighted a selection of resources that are known to the sample of teachers and practitioners, were published within the last 20 years and are appropriate in terms of expense and intended readership. An online study revealed that few instrumental or vocal teachers were aware of the breadth of health education resources that are already available and even fewer teachers had purchased any of these resources. In total 11 resources were identified by the pilot study and **[insert number]** of these resources is published by **[insert publisher name]**.

Having identified a key number of health education resources the next stage in this research is to ask a smaller sample of teachers and practitioners to evaluate the resources in terms of academic rigour, accessibility and practicality for use by teachers in lessons. Following the evaluation study two focus groups will be held to discuss the findings of the research and their implications for the development of health education resources for music educators. Further to these studies the researcher is organising and running a teacher training day at the RNCM in January 2014 aimed at raising awareness of health education resources, support, and research amongst instrumental and vocal teachers across the UK. The resources that are evaluated positively during the evaluation and focus group studies will be promoted at this training day and throughout the course of the PhD research.

In order to carry out the evaluation and focus group studies it is necessary to obtain hard copies or e-book copies of the resources to distribute them to study participants for

the duration of the study. Therefore I am writing to ask if you would be willing to donate 10 copies of the following resource to support this research project.

[Insert book reference]

Following their use in the research project my intention is to publicise the positively evaluated resources to RNCM students and then donate the resources to the RNCM library. I would also ensure that the purchase details of all positively evaluated resources were distributed to RNCM students and those participants in the PhD projects who have indicated their willingness to be contacted with details of health education resources.

Best wishes,

Naomi Norton

PhD Candidate at the Royal Northern College of Music, Manchester

Appendix J: Book evaluation study recruitment messages

Stage 1 recruitment message

Hello,

Thank you for participating in **[insert previous study]**. During that study you indicated that you would be willing to participate in future research, therefore I am writing to invite you to take part in the next stage of my research which involves evaluating a selection of health education resources. The resources that have been chosen for inclusion in this phase of the research were selected based on their age, cost and popularity (as indicated in the pilot study). Evaluation of the selected resources will take place in two stages; Stage 1) evaluation of resources that you already own, and Stage 2) evaluation of resources that you do not currently own. Both stages of this research will be made available via online survey.

The length of time that it will take to complete the Stage 1 survey (accessed by following the link below) will depend upon how many resources you currently own and can therefore currently evaluate (evaluation of each resource is likely to take approximately 5 - 10 minutes). To access the survey for Stage 1 please copy and paste the link provided below into your internet browser; even if you do not believe that you will currently own any of the resources that have been selected please visit the page in order to complete the first page of the survey as this is a valid and essential part of the research process (this should only take a few minutes).

http://www.esurveyspro.com/s/253066/evaluating_health_education_resources_Stage1

If you are no longer willing or able to participate in this study, or future research, please contact me so that I can remove your email address from my database. If you have any questions or concerns regarding this study, or any other studies associated with this research please do not hesitate to contact me at **[insert email address]**.

Meanwhile, many thanks for your continued support and interest in this research.

Best wishes,

Naomi Norton

PhD candidate at the Royal Northern College of Music, Manchester
Violin teacher and performer

Stage 2 recruitment message

Dear **[insert name]**

Thank you for agreeing to participate in the next stage of the evaluation study. Having reviewed your responses to Stage 1 I have selected a few resources that I think may interest you:

[insert chosen references]

Would you be willing to review these **[x]** resources and return them to me by **[insert date]**? I realise that this is quite a short period of time; if you do not think that it will be possible to review and return the books in this time period please let me know as I am happy to discuss this and come to some arrangement. The reason I am requesting such a short turn-around is that I will need to repackage and distribute the resources to subsequent participants and ideally I would like to complete this study by the end of the calendar year in order to present my results at the RNCM Promoting Health and Well-being in Music Lessons conference scheduled for Sunday January 19th 2014.

If you think that you would be able to review more than **[x]** resource by the end of the month you may also be interested in reviewing some of the following resources. If you would like me to include a copy of any of the following books please let me know.

[insert remaining references]

Inclusion of these resources in this study is not an endorsement of their content or instructions; resources were selected based solely on the publication date, cost and popularity (as indicated by results from the pilot study). If you make decisions based on information given in any of these resources that is a personal decision and the researcher takes no responsibility for any subsequent changes to your health and well-being, or that of your pupils. As stated above my intention is to present the results of this study at the RNCM conference; at this point I am hoping to have enough data to present a coherent report with suggestions about the academic rigour, practicality and accessibility of each resource.

As these resources are on loan please take every care not to deface or damage them; some of the resources were kindly donated by publishers and others I have bought with my own money with the intention of making them available to purchase at the conference mentioned above. Therefore if resources are destroyed, lost or damaged (beyond the normal wear and tear of using them) I will unfortunately have to charge you for their replacement. This does not apply to resources lost in the post; where the value of a resource pack is above £20 I will be sending them out using the 'signed for' service therefore in the event of a lost package Royal Mail will cover the loss.

Once I have your confirmation that you are happy to review the stated resources in the allotted time I will send the books to the following address:

[insert address]

Once you have received the books please feel free to read them however you wish, and then access the link provided below in order to complete your evaluation of each

resource. Please note that this is a different survey link to the survey link provided for Stage 1; the questions are similar but some changes have been made to suit the context.

http://www.esurveyspro.com/s/257163/evaluating_health_education_resources_Stage2

Once you have completed the relevant survey pages please use the packaging and stamps provided to return the resources to me at the following address:

[insert address]

If you are still happy to take part in this stage of the study having read the information above please read the following paragraph, then copy and paste it into your email response confirming that you are able to review these resources and will return them as specified. Unfortunately I will not be able to proceed with sending you the resources until I have received this paragraph as an email confirmation, thank you for your understanding.

‘I agree to take part in the next stage of this research project and confirm that the address provided above is correct. I am able to review the resources stated above within the specified time period and I will return them by post on or before **[insert date]**. I understand that if the resources are lost, destroyed, damaged beyond normal wear-and-tear, or if I do not return the resources to the researcher I will be charged for their replacement (this does not apply to resources lost in the post). I understand that the resources included in this study are not endorsed by the researcher and that the researcher will not take responsibility for any decisions that I make based on the information provided within resources.’

Thank you for your continued support and interest in this research. I hope you enjoy reading the resources and I look forward to reading your reviews.

Best wishes,

Naomi Norton

Appendix K: Book evaluation study online survey (Stage 1)

1. Evaluating health education resources for use by instrumental/vocal teachers

Answers marked with a * are required.

Naomi Norton (PhD candidate at the Royal Northern College of Music) is conducting a study to evaluate existing health education resources for use by instrumental and/or vocal teachers. Potential resources were identified via a literature search conducted by the researcher and the pilot study that took place earlier this year. The researcher selected a sample of resources for use in the next phase of this research based on the popularity, age and cost of each resource.

The next phase of this research involves evaluating the selected resources in terms of their appropriateness for use by instrumental/vocal teachers in music lessons; this evaluation focuses on resources' academic rigour, accessibility and practicality. This phase of the research has two stages:

71. Evaluation of selected resources that participants already own

72. Evaluation of selected resources that participants do not currently own.

If you currently own any of the selected sample of resources then you will be asked to evaluate them as part of the first stage of this study. If you do not currently own any of the selected sample of resources then you will be asked whether you would like to participate in the second stage of this study. Copies of these resources are currently being sourced by the researcher and a selection of these will be distributed to Stage 2 participants for a few weeks, to be returned to the researcher upon completion of the evaluation study.

Your participation in all stages of this research is voluntary, and you may withdraw from the study at any time. You do not have to answer any question that you do not wish to answer. The data that you provide will be anonymous (separated from your name) and confidential (not disclosed to anyone). The researcher may publish reports based on the findings, but you will not be identifiable from the data included. Results from this research will be disseminated to a range of individuals including student musicians, professional performing musicians, instrumental and vocal music teachers and health professionals.

If you have any queries or concerns about the research, please contact Naomi Norton ([insert email address]). This research has received approval from the Royal Northern College of Music Research Ethics Committee.

Thank you for participating in this study, the results of this and subsequent studies will help to inform health education and health promotion for musicians.

1. Do you consent for the information that you provide to be used as described above?*

☐ Yes

2. Did you participate in the pilot study (entitled Pilot Study: Health Education Resources for Musicians) that took place in May/June 2014? *

☐ No

☐ Yes

3. Below is a list of the 11 resources that have been selected for inclusion in the evaluation phase of this research project. Please indicate whether you currently own any of these resources.

NOTE: This is a multiple choice question, if you own more than one resource please select all resources that you currently own. If you do not own any of these resources please select the first answer ('I do not currently own any of these resources'). *

- ☐ I do not currently own any of these resources
- ☐ The athletic music: A guide to playing without pain (Paull & Harrison, 1997)
- ☐ Musical excellence: Strategies and techniques to enhance performance (Williamon, 2004)
- ☐ The biology of musical performance and performance-related injury (Watson, 2009)
- ☐ The musician's body: A maintenance manual for peak performance (Rosset i Llobet & Odam, 2007)
- ☐ Indirect procedures: A musician's guide to the alexander technique (de Alcantara, 1997/2013)
- ☐ Playing (less) hurt: An injury prevention guide for musicians (Horvath, 2000/2002/2004/2010)
- ☐ The musician's way: A guide to practice, performance and wellness (Klickstein, 2009)
- ☐ Secrets of performing confidence: For actors, musicians, performers, presenters and public speakers (Evans, 2003)
- ☐ Singing and teaching singing: A holistic approach to classical voice (Chapman, 2005/2011)
- ☐ What every musician needs to know about the body (Conable & Conable, 2000)
- ☐ What every singer needs to know about the body (Malde, Allen, & Zeller, 2012)

4. Stage 2 of this research will involve receiving a sample of the selected health education resources listed in Question 3. You will have a couple of weeks to have a look at these resources and evaluate them using an online survey format similar to the following survey that is being used for analysis of resources that participants already own. Following evaluation of the resources you will be asked to return the books to the researcher (postage costs will be covered) as they will be needed by the next participant.

This is a great opportunity to get a 'sneak-peek' at a selection of health education resources; if you are interested in purchasing any of the resources following participation in the study then some of them will be available to purchase at the training day that is taking place at the RNCM on Sunday 19th June 2014 and purchase details for all resources will be made available to participants.

If you are willing to participate in Stage 2 of this research (analysis of resources that you do not currently own) please write your name, email address and postal address in the text box provided below.

NOTE: This information will ONLY be used to send you a sample of resources if you are chosen for participation in Stage 2 of the research. It will be kept completely confidential, not linked to your survey responses, not stored with your data or used to identify you in any way in publications or presentations.

If you are not willing to participate in Stage 2 please indicate this in the box below; I would like to take this opportunity to thank you for your support of this research. *

5. Do you currently own any of the resources listed in Question 3?

If you currently own at least one of these resources, please continue through the following survey pages as directed.

If you do not currently own any of these resources, thank you for your participation so far. If you would like the opportunity to read a selection of these resources and are willing to take part in Stage 2 of this research please make sure that you have filled in your name, email address and postal address in the box provided with Question 4. Please do not proceed any further through this survey as it is solely for analysis of resources that participants already own. *

☐ I own at least one of the resources listed in Question 3 and will continue through the following survey pages as directed.

☐ I do not currently own any of resources listed in Question 3; I have indicated whether or not I am willing to participate in Stage 2 and will not continue to fill in any of the following survey pages

2. Respondent information

1. What is your sex? *

☐ Male ☐ Female ☐ Prefer not to disclose

2. How old are you? *

3. Please use the text box provided below to write a short description of your professional profile; please specify what your primary occupation is, and whether you have any other occupations or hobbies relating to performing arts medicine. For example;

Person 1) I teach solo voice full time.

Person 2) I teach violin, viola and piano and perform professionally as part of a string quartet from time to time.

Person 3) I am a qualified doctor (Consultant Rheumatologist); I have been involved in performing arts medicine for 10 years. I am also an amateur flautist.

Person 4) I am a qualified physiotherapist and I also teach the flute.

Person 5) I am a qualified Alexander Technique teacher. I also teach the trumpet and perform professionally.

Person 6) I am a professional freelance orchestral clarinet player and I teach private lessons on a regular basis.

Person 7) I am a full-time music student, and I also teach violin to five private pupils.

NOTE: These examples have been fabricated and do not relate to real people. *

4. How long have you been teaching music or working with musicians/performing artists? *

☐ Less than 5 years

- ☐ 6 - 10 years
- ☐ 11 - 15 years
- ☐ 16 - 20 years
- ☐ 21 - 25 years
- ☐ 26 - 30 years
- ☐ More than 30 years
- ☐ Other (Please Specify)

3. Evaluation of [insert book title, author, and date]

This section of the survey is dedicated to evaluation of [*Insert title*] by [*insert author(s)*] (published in [*date*] by [*publisher*]). If you do not currently own a copy of this resource please indicate this in response to the first question then move on to the next section of the survey.

1. Do you currently own a copy of [insert book title] by [insert authors] (published in [date] by [publisher])?

If you do currently own a copy of this resource please indicate this below then complete the rest of this section (questions relating to this resource) before moving on to the next section (questions relating to the next resource).

If you do not currently own a copy of this resource please indicate this below then skip the rest of this section (questions relating to this resource) and move directly on to the next section (questions relating to the next resource). *

- ☐ No ☐ Yes

2. How did you first become aware of this resource?

NOTE: You may choose more than one answer.

- ☐ On the internet
- ☐ I met the author
- ☐ In a library
- ☐ In a bookshop
- ☐ Via a lecturer
- ☐ Via a student
- ☐ Via an instrumental/vocal teacher
- ☐ Via a colleague
- ☐ Other (Please Specify)

3. Why did you buy this resource? e.g. to learn about health and wellbeing, because it was recommended, because it was a course textbook etc.

4. Please indicate which of the following sections you have read from this resource.

NOTE: This is a multiple choice question, please tick all that apply. If you have read the book from cover to cover please choose the option 'I have read all of this resource'.

☐ I haven't read any of this resource

☐ I have read all of this resource

☐ *[insert book sections]*

5. Approximately how often do you refer to the information contained within this resource?

☐ I haven't read any of this resource

☐ Never

☐ Less than once a year

☐ Once a year

☐ Once a month

☐ Once a week

☐ Daily

☐ In every lesson/session

☐ Other (Please Specify)

6. Which section of this resource do/did you find the most useful/interesting?

NOTE: Please use the text box provided in the next question to explain why you find this the most useful/interesting section.

☐ I haven't read any of this resource

☐ *[insert book chapter titles]*

7. Please use the text box provided below to explain why you find the section that you chose above the most useful/interesting:

8. How academically rigorous do you believe this resource to be? Please rate the resource from 1 (not at all academically rigorous) to 7 (very academically rigorous).

The Oxford English Dictionary defines academic, scientific and intellectual rigour as 'the fact of being careful and paying great attention to detail'.

To assess the academic rigour of this resource you could ask questions such as; 'is the resource based on a critical analysis and examination of the topic?', 'is the resource appropriately referenced?' and 'is the information contained within the resource correct according to current research?'.

NOTE: If you have any additional comments regarding the academic rigour of this resource please use the text box provided in the next question.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

9. Please write any additional comments regarding the academic rigour of this resource in the box provided below.

10. How accessible do you think this resource is to instrumental/vocal teachers? (e.g. How much jargon is there? Will it be understood by those without a medical background?).

Please rate the accessibility of this resource for instrumental/vocal music teachers from 1 (not at all accessible) to 7 (very accessible).

If you have any additional comments regarding the accessibility of this resource please use the text box provided in the next question.

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

11. Please write any additional comments regarding the accessibility of this resource for instrumental/vocal teachers in the box provided below:

12. How practical, or applicable, do you believe the information contained in this resource would be for use by instrumental/vocal teachers with their pupils/in lessons?

Please rate the practicality of this resource for use by instrumental/vocal teachers in lessons from 1 (not at all practical) to 7 (very practical).

If you have any additional comments regarding the practicality of this resource please use the text box provided in the next question.

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

13. Please write any additional comments regarding the practicality of this resource for use by instrumental/vocal teachers in the box provided below:

14. A new paperback copy of this resource can be purchased from the publisher for £17.99. Would you buy this resource for that amount?

☐No ☐Yes ☐Other (Please Specify)

15. Would you recommend this resource to (other) instrumental/vocal music teachers?

☐No ☐Yes ☐Other (Please Specify)

16. Please briefly explain why you would, or wouldn't, recommend this resource to (other) instrumental/vocal teachers using the text box provided below:

17. If you have any further comments about the appropriateness of this resource for use by instrumental/vocal music teachers please use the text box provided below to outline your thoughts.

14. Survey Conclusion

Thank you for your participation in this research; the data that you have provided will make it possible for musicians, educators, health charities and health care professionals to make more informed recommendations of resources that are appropriate for use by instrumental/vocal teachers in the context of music lessons.

Stage 2 of this study will involve evaluation of resources that you do not currently own; I am currently sourcing copies of the selected resources which will be made available to research participants for a few weeks. If you do not wish to be contacted regarding participation in this stage of the research please indicate this in the space provided below. If you do wish to participate in this stage of the research please ensure that you have left your name, email address and postal address in the space provided below.

If you have any questions or concerns regarding your participation in this research please contact me at [insert email address].

Best wishes,

Naomi Norton

PhD candidate, Royal Northern College of Music

1. If you would like to participate in Stage 2 of this research please ensure that you have provided your name, email address and postal address either at the beginning of the survey or in the space provided below.

If you do not wish to participate in Stage 2 of this research please state this clearly below.

2. If you have any additional comments regarding this research or the wider topic of health education resources please feel free to use the text box provided below or contact me at [insert email address].

Appendix L: Book evaluation study online survey (Stage 2)

1. Evaluating health education resources for use by instrumental/vocal teachers

Answers marked with a * are required.

Naomi Norton (PhD candidate at the Royal Northern College of Music) is conducting a study to evaluate existing health education resources for use by instrumental and/or vocal teachers. Potential resources were identified via a literature search conducted by the researcher and the pilot study that took place earlier this year. The researcher selected a sample of resources for use in the next phase of this research based on the popularity, age and cost of each resource.

This survey is for use during the second phase of the research, which involves evaluating resources that you do not currently own in terms of their appropriateness for use by instrumental/vocal teachers in music lessons; evaluation focuses on resources' academic rigour, accessibility and practicality. You are being invited to participate as you have indicated in a prior study that you are interested in evaluating a sample of resources that you do not currently own and therefore would like to take part in this phase of the research.

Your participation in all stages of this research is voluntary, and you may withdraw from the study at any time. You do not have to answer any question that you do not wish to answer. The data that you provide will be anonymous (separated from your name) and confidential (not disclosed to anyone). The researcher may publish reports based on the findings, but you will not be identifiable from the data included. Results from this research will be disseminated to a range of individuals including student musicians, professional performing musicians, instrumental and vocal music teachers and health professionals.

If you have any queries or concerns about the research, please contact Naomi Norton ([insert email address]). This research has received approval from the Royal Northern College of Music Research Ethics Committee.

Thank you for participating in this study, the results of this and subsequent studies will help to inform health education and health promotion for musicians.

1. Do you consent for the information that you provide to be used as described above?*

☐ Yes

2. Did you participate in the pilot study (entitled Pilot Study: Health Education Resources for Musicians) that took place in May/June 2014? *

☐ No

☐ Yes

3. Below is a list of the 11 resources that have been selected for inclusion in the evaluation phase of this research project. Please indicate whether you currently own any of these resources.

NOTE: This is a multiple choice question, if you own more than one resource please select all resources that you currently own. If you do not own any of these resources please select the first answer ('I do not currently own any of these resources'). *

☐ I do not currently own any of these resources

☐ The athletic music: A guide to playing without pain (Paull & Harrison, 1997)

- ☐ Musical excellence: Strategies and techniques to enhance performance (Williamon, 2004)
- ☐ The biology of musical performance and performance-related injury (Watson, 2009)
- ☐ The musician's body: A maintenance manual for peak performance (Rosset i Llobet & Odam, 2007)
- ☐ Indirect procedures: A musician's guide to the alexander technique (de Alcantara, 1997/2013)
- ☐ Playing (less) hurt: An injury prevention guide for musicians (Horvath, 2000/2002/2004/2010)
- ☐ The musician's way: A guide to practice, performance and wellness (Klickstein, 2009)
- ☐ Secrets of performing confidence: For actors, musicians, performers, presenters and public speakers (Evans, 2003)
- ☐ Singing and teaching singing: A holistic approach to classical voice (Chapman, 2005/2011)
- ☐ What every musician needs to know about the body (Conable & Conable, 2000)
- ☐ What every singer needs to know about the body (Malde, Allen, & Zeller, 2012)

4. If you have indicated that you currently own any of the resources listed above, please can you confirm that you have evaluated it/them via the Stage 1 Survey available via the following link:

http://www.esurveyspro.com/s/253066/evaluating_health_education_resources_Stage1

PLEASE NOTE: The wording of this survey is slightly different to the wording of the Stage 1 survey therefore if you currently own a resource please use the Stage 1 survey. If you are evaluating a resource that you do not currently own and have therefore borrowed for the purposes of this research please use this survey (i.e. Stage 2). *

- ☐ I do not currently own any of the resources listed in Question 3
- ☐ I own at least one of the resources listed in Question 3 and have already evaluated it/them using the Stage 1 survey.
- ☐ I own at least one of the resources listed in Question 3 and will ensure that I evaluate it/them using the Stage 1 survey. I will evaluate the resources that I have just received using the Stage 2 survey that follows.

2. Respondent information

1. What is your sex? *

- ☐ Male ☐ Female ☐ Prefer not to disclose

2. How old are you? *

3. Please use the text box provided below to write a short description of your professional profile; please specify what your primary occupation is, and whether you have any other occupations or hobbies relating to performing arts medicine. For example;

Person 1) I teach solo voice full time.

Person 2) I teach violin, viola and piano and perform professionally as part of a string quartet from time to time.

Person 3) I am a qualified doctor (Consultant Rheumatologist); I have been involved in performing arts medicine for 10 years. I am also an amateur flautist.

Person 4) I am a qualified physiotherapist and I also teach the flute.

Person 5) I am a qualified Alexander Technique teacher. I also teach the trumpet and perform professionally.

Person 6) I am a professional freelance orchestral clarinet player and I teach private lessons on a regular basis.

Person 7) I am a full-time music student, and I also teach violin to five private pupils.

NOTE: These examples have been fabricated and do not relate to real people. *

4. How long have you been teaching music or working with musicians/performing artists? *

- ☐ Less than 5 years
- ☐ 6 - 10 years
- ☐ 11 - 15 years
- ☐ 16 - 20 years
- ☐ 21 - 25 years
- ☐ 26 - 30 years
- ☐ More than 30 years
- ☐ Other (Please Specify)

3. Evaluation of [insert book title, author, and date]

This section of the survey is dedicated to evaluation of [*Insert title*] by [*insert author(s)*] (published in [*date*] by [*publisher*]). If you have not received a copy of this resource to evaluate please indicate this in response to the first question then move on to the next section of the survey.

1. Have you received a copy of [*Insert title*] from the researcher in order to evaluate it as part of this study?

If you have received a copy of this resource please indicate this below then complete the rest of this section (questions relating to this resource) before moving on to the next section (questions relating to the next resource).

If you have not received a copy of this resource please indicate this below then skip the rest of this section (questions relating to this resource) and directly on to the next section (questions relating to the next resource) *

- ☐ No, I have not received a copy of this resource.
- ☐ Yes, I have received a copy of this resource.

2. Prior to taking part in this study had you heard of this resource?

- ☐ No
- ☐ Yes

3. What were your first impressions of this resource? This could relate to the book's aesthetics, size, or weight, the text to picture ratio, your immediate reaction to author bio, blurb or introduction etc. or any other factor that contributes to your first impression.

4. Prior to taking part in this study had you read any of this resource?

☐ I had not read any of it

☐ I had read some of it

☐ I had read most of it

☐ I had read all of it

5. Please indicate which of the following sections you have read prior to, or since, receiving a copy of this resource for evaluation.

NOTE: This is a multiple choice question, please tick all that apply. If you have read the book from cover to cover please choose the option 'I have read all of this resource'.

☐ I haven't read any of this resource

☐ I have read all of this resource

☐ *[insert book sections]*

6. Which section of this resource did you find the most useful/interesting?

NOTE: Please use the text box provided in the next question to explain why you find this the most useful/interesting section.

☐ I haven't read any of this resource

☐ *[insert book chapter titles]*

7. Please use the text box provided below to explain why you find the section that you chose above the most useful/interesting:

8. How academically rigorous do you believe this resource to be? Please rate the resource from 1 (not at all academically rigorous) to 7 (very academically rigorous).

The Oxford English Dictionary defines academic, scientific and intellectual rigour as 'the fact of being careful and paying great attention to detail'.

To assess the academic rigour of this resource you could ask questions such as; 'is the resource based on a critical analysis and examination of the topic?', 'is the resource appropriately referenced?' and 'is the information contained within the resource correct according to current research?'.

NOTE: If you have any additional comments regarding the academic rigour of this resource please use the text box provided in the next question.

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7

9. Please write any additional comments regarding the academic rigour of this resource in the box provided below.

10. How accessible do you think this resource is to instrumental/vocal teachers? (e.g. How much jargon is there? Will it be understood by those without a medical background?).

Please rate the accessibility of this resource for instrumental/vocal music teachers from 1 (not at all accessible) to 7 (very accessible).

If you have any additional comments regarding the accessibility of this resource please use the text box provided in the next question.

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

11. Please write any additional comments regarding the accessibility of this resource for instrumental/vocal teachers in the box provided below:

12. How practical, or applicable, do you believe the information contained in this resource would be for use by instrumental/vocal teachers with their pupils/in lessons?

Please rate the practicality of this resource for use by instrumental/vocal teachers in lessons from 1 (not at all practical) to 7 (very practical).

If you have any additional comments regarding the practicality of this resource please use the text box provided in the next question.

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

13. Please write any additional comments regarding the practicality of this resource for use by instrumental/vocal teachers in the box provided below:

14. A new paperback copy of this resource can be purchased from the publisher for £17.99. Would you buy this resource for that amount?

☐No ☐Yes ☐Other (Please Specify)

15. Following return of this copy to the researcher are you intending to purchase your own copy of this resource for personal reference?

PLEASE NOTE: A few copies of this resource will be available to purchase at the Promoting Health and Well-being in Music Lessons conference that is being held at the RNCM on Sunday 19th January 2014. If you would like more details about this conference or details for purchasing this resource please email the researcher at **[insert email address]**.

☐No, I am not intending to purchase this resource for personal reference

☐I might purchase this resource at some point in the future

☐I'm hoping to purchase a copy of this resource at the conference mentioned above

☐I've ordered this resource from an online shop (e.g. Amazon, eBay etc.)

☐I've ordered this resource from the publisher

☐Other (Please Specify)

16. Would you recommend this resource to (other) instrumental/vocal music teachers?

☐No ☐Yes ☐Other (Please Specify)

17. Please briefly explain why you would, or wouldn't, recommend this resource to (other) instrumental/vocal teachers using the text box provided below:

18. If you have any further comments about the appropriateness of this resource for use by instrumental/vocal music teachers please use the text box provided below to outline your thoughts.

14. Would you like to review more resources?

If you have enjoyed reading and reviewing the resources that you have already received and would like the opportunity to read and review a few more resources from the list please contact me via email to let me know. You will need to return the resources that you currently have before I can send out the new set of resources.

If you would like to receive more resources please click the 'Save and Continue Later' button at the bottom of the page and make a note of the personalised survey link that is provided. When you receive your new resources through please return to the appropriate page on this survey (by clicking 'Back'), change your answer to the first question on the page (from 'No, I have not received a copy this resource' to 'Yes, I have received a copy of this resource') and complete the rest of the questions as directed. If you proceed beyond this page (i.e. if you click 'Next') instead of saving your responses to return to later you will no longer be able to access your survey responses in order to evaluate the next set of resources that you receive.

If you are not interested in reviewing any more resources please proceed to the next page and complete your survey response by pressing 'Finish'; this will conclude your participation in this survey. Thank you for your interest and support. Please return the resources that you have evaluated to the researcher at **[insert return address]**.

15. Survey Conclusion

Thank you for your participation in this research; the data that you have provided will make it possible for musicians, educators, health charities and health care professionals to make more informed recommendations of resources that are appropriate for use by instrumental/vocal teachers in the context of music lessons.

If you would like the publication details of any of the resources included in this study please contact the researcher. A limited number of copies of some of the resources will be available to purchase at the RNCM 'Promoting Health and Well-being in Music Lessons' conference that is being held on Sunday 19th January 2014 at the RNCM, Manchester. For more details about this event please contact the researcher.

If you have any questions or concerns regarding your participation in this research please contact me at **[insert email address]**. If you still have any resources in your possession that belong to the researcher please return them to the address below as soon as possible as once they have been returned they can be distributed to other participants.

Best wishes,

Naomi Norton

PhD candidate, Royal Northern College of Music

[insert return address]

1. If you have any additional comments regarding this research or the wider topic of health education resources please feel free to use the text box provided below or contact me at [insert email address].

Appendix M: Evaluation study participants

List of abbreviations: Evaluation study participant (ESP), Female (F), Male (M)

Table N.1: Instrumental/vocal teachers

R#	Age	Sex	Professional profile	Experience	Stage 1 reviews	Stage 2 reviews
ESP1	63	F	Teaches piano, accompanies (mostly for exams), occasionally composes, and is involved in music research.	> 30 years		Watson (2009) Horvath (2008) De Alcantara (2013)
ESP2	53	F	Professional orchestra musician and teaches violin and piano.	> 30 years		Horvath (2008) De Alcantara (2013)
ESP3	59	F	Teaches solo voice (full time private studio) and the director of a vocal educational charity for children age 4+.	> 30 years		Watson (2009) De Alcantara (2013) Evans (2013) Chapman (2011)
ESP4	53	F	Teaches woodwind and performs in a church based group.	21-25 years	Rosset i Llobet & Odam (2007)	
ESP5	56	F	Teaches solo voice part time, sings in choirs and conducts choirs.	6-10 years		Williamon (2004) Watson (2009) Chapman (2011) Malde et al. (2013)
ESP6	40	F	Freelance orchestral and chamber woodwind player. Teaches peripatetically in a school and adult pupils in a private studio. Designs and manages education projects (specialising in work with children and young people with disabilities)	16-20 years		Watson (2009) De Alcantara (2013) Evans (2013) Conable & Conable (2000)
ESP7	56	F	Teaches flute and piano, accompanies and plays cello in quartets and amateur orchestras.	> 30 years		Paull & Harrison (1997) Williamon (2004) Rosset i Llobet & Odam (2007) Horvath (2008) Klickstein (2009)
ESP8	50	M	Teaches trumpet (jazz/world music) and is a freelance trumpeter and 'cellist	> 30 years		Paull & Harrison (1997) Watson (2009)

ESP9	40	F	Teaches trumpet and tutors brass full time (including whole-class lessons).	16-20 years		Paull & Harrison (1997) Williamon (2004) Rosset i Llobet & Odam (2007) Horvath (2008) Evans (2013)
ESP10	54	F	Senior Lecturer in Singing and Course Leader for Music Theatre. Also teaches teenage singers at a training centre and performs as a freelance singer.	26-30 years		Williamon (2004) Watson (2009) Chapman (2011) Malde et al. (2013)
ESP11	43	F	Teaches violin, viola, cello and piano and performs professionally in string quartets and orchestras on a freelance basis.	16-20 years		Paull & Harrison (1997) Rosset i Llobet & Odam (2007) Horvath (2008) Conable & Conable (2000)
ESP13	24	F	Singing teacher and performer. Undertaking a Voice Studies degree to become a Voice Coach for professional speakers and singers.	<5 years		Chapman (2011) Malde et al. (2013)
ESP14	20	M	Undergraduate student teaching piano, clarinet and saxophone privately. Accompanies professionally and volunteers in primary schools.	<5 years		Paull & Harrison (1997) Horvath (2008)
ESP15	49	F	Teaches solo piano, flute and voice and also music theory. Plays in an amateur orchestra, occasionally performs professionally, and accompanies students.	16-20 years	De Alcantara (2013)	Williamon (2004) Watson (2009) Rosset i Llobet & Odam (2007) Klickstein (2009)
ESP16	34	F	Teaches violin and piano and performs freelance in a limited capacity due to hypermobility syndrome-related issues. Also sings with a freelance choir.	16-20 years	Paull & Harrison (1997) Rosset i Llobet & Odam (2007)	Watson (2009) De Alcantara (2013) Evans (2013)
ESP17	56	F	Professional singer and teaches singing full time.	11-15 years		Watson (2009) Horvath (2008) Chapman (2011)
ESP18	42	M	Teaches solo voice full time and performs professionally. Also has a PhD in Physical Chemistry.	<5 years		Watson (2009) De Alcantara (2013) Chapman (2011)
ESP25	>50	F	Semi-retired: teaches violin one day a week and performs more frequently	> 30 years	Rosset i Llobet & Odam (2007)	

ESP33	71	F	Teaches piano part time, composes and performs. Also a qualified massage therapist.	> 30 years		Paull & Harrison (1997) Rosset i Llobet & Odam (2007) Horvath (2008) Conable & Conable (2000)
ESP34	60	F	Teaches solo voice and drama. Qualified NLP Practitioner. Semi-retired from professional vocal work due to a neurological condition.	26-30 years		Klickstein (2009) Evans (2013)
ESP35	63	F	Senior Lecturer in singing (popular and music theatre), teaches individual lessons at a training centre and performs professionally occasionally.	> 30 years	De Alcantara (2013)	
ESP37	24	M	Professional guitarist and part time guitar/music teacher.	6-10 years		Klickstein (2009)

Table N.2: Healthcare professionals

R#	Age	Sex	Professional profile	Experience	Stage 1 reviews	Stage 2 reviews
ESP19	60	M	Expert in neuroscience and anatomy and an amateur musician.	6-10 years	Paull & Harrison (1997) Williamon (2004) Rosset i Llobet & Odam (2007) Horvath (2008) Klickstein (2009) Chapman (2011)	De Alcantara (2013) Evans (2013) Conable & Conable (2000) Malde et al. (2013)
ESP21	26	F	Qualified physiotherapist and teacher of ballet (part time).	6-10 years	Rosset i Llobet & Odam (2007)	
ESP22	52	F	Qualified doctor (GP) involved in PAM for over 20 years; also an amateur musician.	21-25 years	Williamon (2004) Rosset i Llobet & Odam (2007)	
ESP23	65	M	Qualified Alexander teacher and teacher-trainer. Performed professionally before becoming a teacher.	> 30 years	Paull & Harrison (1997) De Alcantara (2013) Conable & Conable (2000)	
ESP24	43	F	Chartered physiotherapist and Pilates Instructor. Specialism in dance and PAM.	11-15 years		Paull & Harrison (1997) Horvath (2008) Klickstein (2009) Conable & Conable (2000)
ESP26	46	M	Osteopath - Previously trained as a professional eurythmist (performing art of movement). Involved with PAM for 10 years and an amateur pianist.	6-10 years	Rosset i Llobet & Odam (2007)	

ESP28	50	M	Chartered physiotherapist involved in PAM for over a decade. Also involved in PAM research relating to dystonia. Previously a professional brass player.	11-15 years		Paull & Harrison (1997) Watson (2009) Rosset i Llobet & Odam (2007) De Alcantara (2013)
ESP29	69	F	Applied psychologist and psychotherapist working with performing artists.	11-15 years	Williamon (2004)	Rosset i Llobet & Odam (2007) Klickstein (2009)
ESP30	65	M	Qualified doctor (rheumatologist) and an amateur pianist.	> 30 years	Williamon (2004) Watson (2009) Horvath (2008)	Rosset i Llobet & Odam (2007) Klickstein (2009) Evans (2013) Chapman (2011) Conable & Conable (2000) Malde et al. (2013)
ESP31	68	M	Qualified doctor (GP) with additional studies in musculoskeletal medicine. Amateur violinist, pianist and singer with special interest in pedagogy and tensions in performance	11-15 years	Williamon (2004) Watson (2009) De Alcantara (2013) Horvath (2008)	Klickstein (2009) Conable & Conable (2000) Malde et al. (2013)
ESP36	33	F	Qualified Sports Rehabilitator who treats musicians	6-10 years		Paull & Harrison (1997)

Appendix N: Individualised reviews of books

Singing and teaching singing

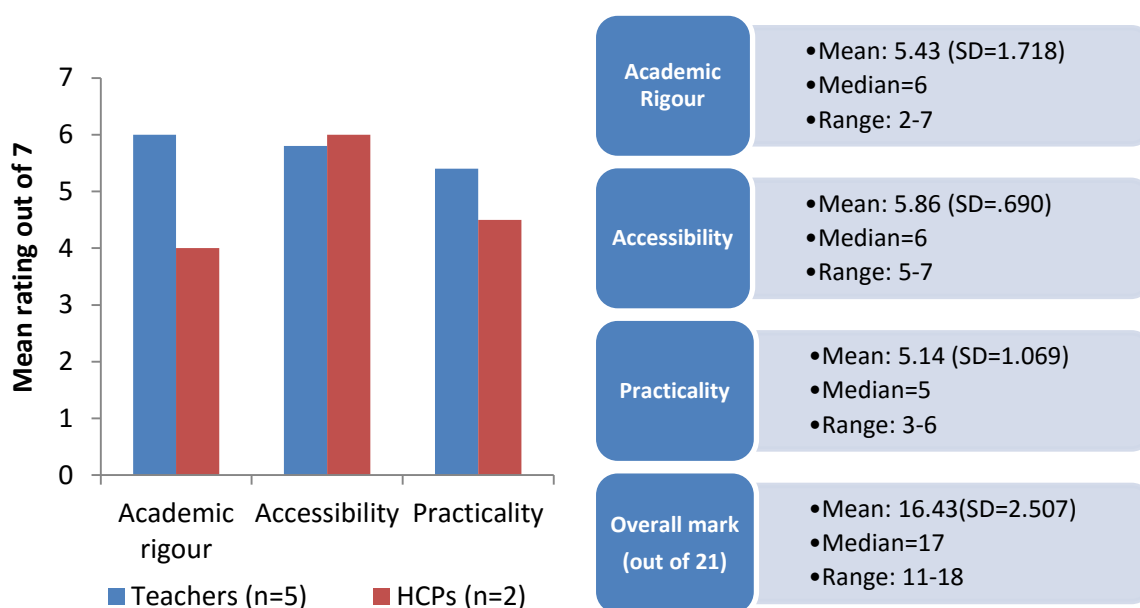
Reference: Chapman, J. (2011). *Singing and teaching singing* (2nd ed.). Oxford, UK: Plural Publishing.

During Stage 1 this book was reviewed by a teacher (ESP17) and neuroscientist/anatomist (ESP19) who already owned the book. During Stage 2 the book was reviewed by four teachers (ESP5, ESP10, ESP13 and ESP18) and a rheumatologist (ESP30) who had not previously read the book. All teachers who reviewed this book were primarily voice teachers.

First impressions: One of the teachers commented that it “looks a little ‘heavy’” (ESP34) and similarly ESP13 suggested that “it seemed, from the outside, as if it may be too dry and textbook-like due to its size and weight” but once she opened it she reported that there was a good text to picture ratio and “the introduction was immediately very readable, making me interested to read on” (ESP13). Another teacher stated that their immediate reaction to the author biography was that this is “a serious volume by an experienced and highly respected singing teacher” (ESP17), an impression that was reinforced by reading the chapter on pedagogical philosophy. ESP5 reported that they chose to read this book before the others they were sent to review as “it looked accessible, with lots of diagrams” and a good structure. Similarly, ESP10 reported that it was “clear and approachable, although obviously containing a lot of technical information” although she was also confused by the division between ‘Classical’ voice and other styles of singing, the use of the word ‘holistic’, and some of the choices regarding structure. The rheumatologist stated that this is a little outside his area of expertise but felt that it was better than Malde et al. (2013) as it appears “more scientific and an interesting and thought provoking read” (ESP30).

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and healthcare professionals (HCPs).



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic rigour: Two teachers commented on the balance between academic rigour and readability: i.e. “there is more anecdote in this book, but of course this makes it more readable”

(ESP10) and “it is very academic and accurate, whilst not sounding like a science text book” (ESP13). ESP10 does not believe there is any evidence that the inclusion of anecdote makes the content unreliable, and there are also relevant references and peer support. Furthermore, ESP18 commented that “this book is exceptionally well referenced” and the author makes it clear what is factual and what is her own experience and opinion. The neuroscientist/anatomist suggested that the book is not very academically rigorous, but that is not its aim; he would however “like to see a greater understanding of physiological concepts” (ESP19). The rheumatologist rated the book as 6 out of 7 for academic rigour but commented that his knowledge of voice comes mainly from accompanying rather than anatomy or physiology (ESP30).

Accessibility: Teachers rated the accessibility of this book highly: e.g. “very accessible and easy to follow” (ESP10) and “no real prior understanding is needed...it builds the reader up to understanding complex information, without expecting the reader to know the basics already” (ESP13). A few reservations were expressed, for example ESP5 suggested that it is “reasonably accessible if you have the will to know exactly how things work when singing” but also biased towards professional singers and ESP10 commented that the author tends to only work with “amazing singers with advanced technique” and she wonders whether “the students we more ordinary folk see” might find the information “too sophisticated to be of use”. Similarly, ESP18 commented that “there are references to terms that are known and accepted by many vocal teachers but possibly not by all” and suggested that the medical aspects may seem daunting to some readers. ESP17 reported that at her recommendation the university department they work at has now included the book on its syllabus for the ‘Music Performance Practice and Research’ module. Finally, the neuroscientist/anatomist commented that the book is engaging and entertaining, therefore it is “a pity about the lack of accuracy” (ESP19).

Practicality: There were relatively few comments regarding practicality: ESP19 suggested it is “good on a few issues” and ESP5 stated that there are “some good exercises in the appendix”. ESP10 suggested they would expect a teacher to “read the book and impart the information to the student” rather than refer to it in lessons and ESP13 also commented that it could be useful but perhaps goes into detail that may be unnecessary “depending on the age and training of the pupil”. ESP18 was more positive suggesting that there are “clearly many good examples and exercises that can be used immediately by vocal teachers” and that it is also a good read for “formulating longer term teaching strategies”.

Would you buy this book?

At the time of the study this book was available from the publisher for £40: at this price two participants would not buy it (ESP17 and ESP18), ESP30 would probably pay £20, ESP13 would try to get a second hand copy and ESP10 has asked their university library to buy it.

Would you recommend this book to an instrumental/vocal teacher?

The neuroscientist/anatomist was unsure whether he would recommend it “given the competition”: for example, he suggested that *The dynamics of the singing voice* by Meribeth Bunch is “more accurate but rather drier and less engaging”. One of the teachers suggested that they would only recommend it to someone teaching classical voice (ESP5). The remaining teachers and the rheumatologist would recommend it. ESP10 commented that it “seems really thorough and touches on most aspects of classical singing technique”. ESP13 stated that “this is the most comprehensive, useful book I have read thus far” as it covers a wide range of issues, strikes a balance between “science, practise and personal experience”, and the author’s personal opinions are mild and directed towards helping the reader gain a better understanding. Similarly, ESP18 commented that the book “manages to espouse a very clear methodology, without discounting

the possibility that other methods are possible”; he was the only ESP to access the website and he commented that “it is very limited and doesn’t add anything to the resource”.

Musical excellence: Strategies and techniques to enhance performance

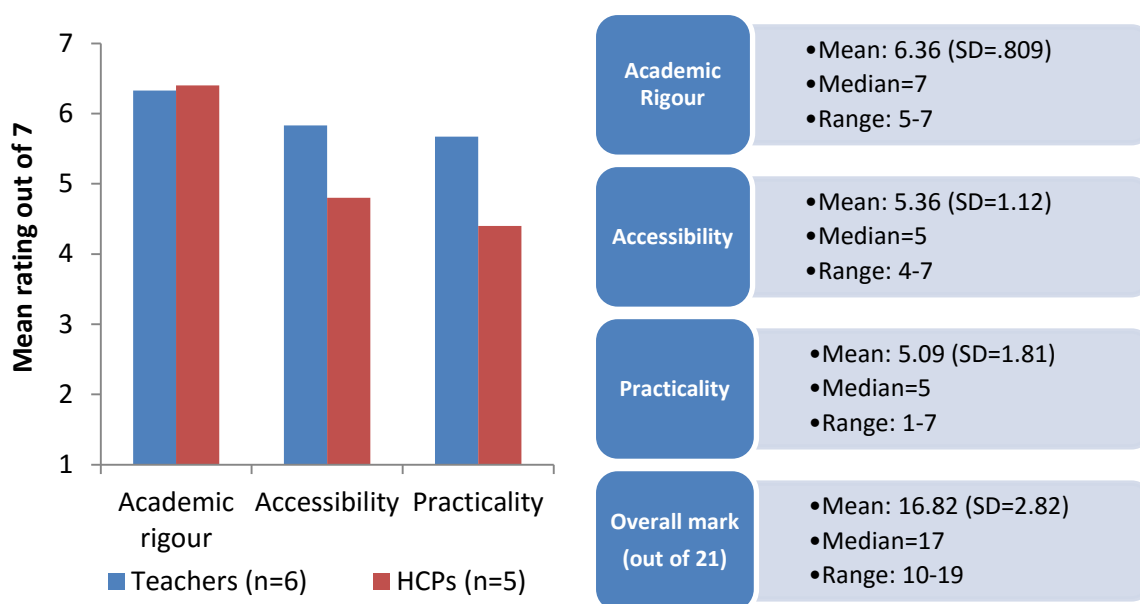
Reference: Williamon, A. (2004). *Musical excellence: Strategies and techniques to enhance performance*. London, UK: Oxford University Press.

During Stage 1 this book was reviewed by two GPs (ESP22 and ESP31), a neuroscientist and anatomist (ESP19) a psychologist/psychotherapist (ESP29), and a rheumatologist (ESP30) who already owned the book. During Stage 2 the book was reviewed by six teachers (ESP5, ESP6, ESP7, ESP9, ESP10 and ESP25) who had not previously read the book.

First impressions: Teachers first impressions were mostly favourable, as they suggested that it looks like “an in-depth resource, possibly quite heavy-going to read (ESP5), is “well set out...looks seriously interesting” (ESP7), “very scholarly from the outset, and with very impressive author information” (ESP9). ESP10 initially found it “attractive...very much an ‘academic’ book” but thought it might be suitable only for advanced students and teachers: on closer examination they found it to be clear and easy to read “without too much jargon or overuse of obscure vocabulary”. Similarly, ESP6 reported that the book was clearly presented with excellent referencing and “very relevant information...clearly thought through with the performer’s actual experience in mind”, despite it utilising mainly text-based presentation and “very complex and tricky” graphs at times.

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs.



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic Rigour: The neuroscientist/anatomist commented that the information is “well validated with cited references allowing follow up” (ESP19) and one of the GPs believes it is “as academically rigorous as the subject allows” (ESP22). The psychologist/psychotherapist suggested that a new edition may be due as there is more up-to-date research and clinical evidence available. One of the teachers stated that the book is “superb” (ESP6) in relation to academic rigour, another suggested that “every part is backed up by quotes and well documented research”

and there is “a comprehensive list for further reading and references” (ESP7). ESP9 felt that the information was “well balanced and well researched” with numerous references to scholars and research. ESP10 commented that the detailed referencing was evidence of the academic rigour but there was information that was less necessary as “when unpicked” it was quite obvious.

Accessibility: Two HCPs commented that “musicians are inquisitive about biological issues and...will work hard to understand” (ESP19) and that “it would be accessible to a non-medical person with a good background educational level (ESP22). In contrast, the other GP (ESP31) suggested that in their experience “this is not the sort of book [teachers] read and many would find it tough going and not have the conceptual background to judge it/benefit from much of it”. One of the teachers suggested that it would be better to include less material and present it more simply (ESP25) and another believes that the book may be too academic for teachers who have not undertaken degree or postgraduate level research reading (ESP6). In contrast, three others felt that the book “should be compulsory reading for every musician and teacher (ESP9), that there was “no medical jargon” and the book was well structured easy to access (ESP7), and that despite initially appearing to be heavy going they had read nearly all of it and “found most of what is said very valuable indeed [and] mostly very accessible” (ESP5).

Practicality: The HCPs felt that this book would provide “food for thought, and ideas and suggestions for [teachers’] work” (ESP29) and that the book “benefits from the fact that the editor is both a musician and academic who is good at bringing together diverse individuals” (ESP19). One GP commented that this would be “a book for a teacher to recommend to a pupil, not to use in a lesson” (ESP22) and the other suggested that with the “rather ‘high end’ material” included the book may be considered to have “limited practical appeal by a majority of teachers” (ESP31). The teachers rated the practicality of this book quite highly with one commenting that “this book helps provide an intelligent strategy to reduce the workload [of performing]” (ESP7). Other teachers had some reservations, suggesting for example that the book is “directed towards professional musicians” (ESP5) and that “It would be helpful if some real lesson ‘fun’ examples were included” (ESP6). ESP10 suggested that the book might be more useful in terms of confirming the teacher’s existing strategies and techniques for encouraging good practice.

Would you buy this book?

At the time of the study this book was available from the publisher for £39.99: at this price two participants would not buy it (ESP22 & ESP25), ESP31 commented that some of the experimental methodologies presented could not be applied in everyday setting, ESP5 might buy it if they had not already read it, ESP6 and ESP10 would ask their institution to buy a reference copy, three would buy it (ESP9, ESP19 & ESP29), one respondent would pay £20, and ESP30 would if a new edition was released.

Would you recommend this book to an instrumental/vocal teacher?

Ten participants (4 HCPs and all teachers) would recommend this book; the remaining HCP (ESP22) was unsure whether she would recommend the book as she felt it would not suit all teachers. Two of the HCPs made additional comments suggesting that they felt the book would be “most appropriate at college level” (ESP19) and they would recommend the book, with reservations, “as a source of general information for the interested reader” (ESP31). The teachers would recommend it because “it deals with pertinent issues” (ESP25), “it is excellently written and researched” (ESP7), “it contains information that most teachers would probably not have given much thought to” (ESP5), “it contains references than an interested teacher could research for themselves or use as reference material for students” (ESP9) and it gives “concrete evidence of effective strategies for practise” (ESP6).

Other comments: Two of the teachers thought it was a “thoroughly excellent book” (ESP9) and ESP6 was planning to get a copy from the library. ESP29 suggested that each of the sections could be a separate book and that it would benefit from a good chapter on performance anxiety. ESP31 suggested that there was little or no practical advice on injury prevention strategies and that the chapter on drugs failed to address the common side effects of commonly prescribed medication that can affect the performance of voice users, instrumentalists, asthmatics and diabetics.

The musician’s body: A maintenance manual for peak performance

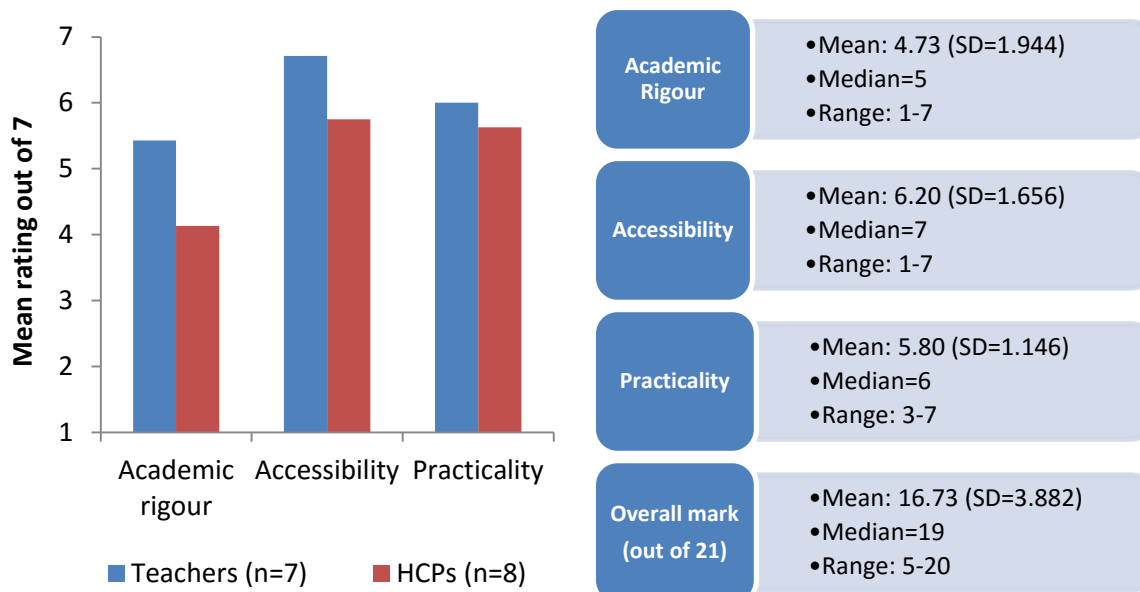
Reference: Rosset i Llobet, J., & Odam, G. (2007). *The musician’s body: A maintenance manual for peak performance*. London, UK: Guildhall School of Music and Ashgate Publishing Limited.

During Stage 1 this book was reviewed by two teachers (ESP4 and ESP16), two GPs (ESP22 and ESP31), a neuroscientist/anatomist (ESP19), physiotherapist (ESP21), and an osteopath (ESP26) who already owned the book. During Stage 2 the book was reviewed by five teachers (ESP7, ESP9, ESP11, ESP15 and ESP33) a physiotherapist (ESP28), psychologist/psychotherapist (ESP29) and rheumatologist (ESP30) who had not previously read the book.

First impressions: Three teachers liked the book’s aesthetics, e.g.: “looked fun and loved the introduction” (ESP11) and “I like this book! It has lots of pictures and questions to ensure that you’ve understood the concepts” (ESP15). The “cartoon graphics and quiz sections” made ESP7 think that the book was aimed at students. ESP9 commented that their impression that the book was aimed at children was “far from the truth”; her judgement was influenced because they know that Ashgate Press publishes academic books. ESP33 commented that it appeared to have “plenty of useful diagrams and pictures” and she liked that the book is colour coded. Two HCPs liked the book’s aesthetics, commenting that it contains accurate information “well presented in a readable but also serious style” (ESP30) and has a good layout with a range of formats that make it easy to read (ESP28). In contrast, ESP29 felt that the presentation “looked cheap, shoddy and gimmicky”.

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs.



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic rigour: Some teachers commented that “its writing style isn’t academic, but it appears to be accurate (ESP15), there is “not so much detail, but a sensible broad look at the physical problems faced by musicians” (ESP7), and “it wasn’t a weighty tome but it kept my interest” (ESP11). Other teachers suggested that “all of the books I’ve read in this past few weeks and many, many more, were consulted...Not only that but the authors were clearly well qualified” (ESP33); likewise ESP4 commented that “the authors are experts in their field” so she trusts that their suggestions are based on “thorough knowledge of the body”. ESP9 believed that the book “reflects a great deal of subject knowledge” but there were not many references to other scholars or current research (although there is a bibliography for further reading which she felt enhanced the book’s credentials). ESP33 pointed out that there are lots of typos and “wondered at one point if someone had actually proof read this book!”. Two HCPs suggested that it is not intended to be an academic book (ESP22 and ESP31) and ESP19 stated that the “writing is often poor, vague and not very accurate...Jokey illustrative style is not sufficiently rigorous to be useful”. Likewise, ESP29 suggested that “in trying to be comprehensive [the authors] managed to gloss over/simplify/misrepresent some areas which are contentious”. While ESP28 commented that “this is a great book, very accessible!” he had criticisms relating to the sections on motor control and muscle imbalance, MPA and the lack of epidemiological studies looking at musculoskeletal problems (ESP28).

Accessibility: Teachers commented that the book is “written in an easy to read style” (ESP7) and the “illustrations are relevant and useful as well as amusing” (ESP4). ESP11 reported that their teenage pupils had been interested, ESP33 felt that it was “highly accessible, but especially so for students”, and ESP9 suggested that the ‘manual’ format makes it accessible. Two teachers had reservations: ESP9 suggested that the anatomical diagrams are “highly stylised and not truly anatomically correct” and ESP16 reported that they prefer the diagrams in *The Athletic Musician* (Paull & Harrison, 1997). Furthermore ESP22 commented that the book is “easy to understand but covers a lot of relevant topics” but ESP10 suggested that “some of the information is rather dubious.

Practicality: The teachers suggested that the book would be “useful to lend out to students” (ESP7), “good for pupils to take away and study then discuss” (ESP16), “a highly practical book with lots of common sense advice [and] a very useful chapter on ergonomics” (ESP9), and “the exercises on the whole were very good” (ESP11). ESP4 would not use the book in a lesson but would use the information it contains as the need arises but ESP33 suggested that the illustrations are useful for explaining to students how body parts work and how to look after them. ESP29 suggested that teachers and students should cover the material together to allow them to give/receive feedback and clarify points. Other HCPs suggested that the book is practical, in particular the ergonomic aids section (ESP19), the illustrations (ESP22) and the summary boxes (ESP28). ESP31 disagreed with the content relating to stretches and suggested that the basic procedure for reducing pain and injury is a correct physical warm up.

Would you buy this book?

At the time of the study this book was available from the publisher for £17.99: at this price four participants would not buy it (ESP7, ESP19, ESP26 & ESP29), ten would (ESP4, ESP9, ESP11, ESP15, ESP21, ESP22, ESP28, ESP30, ESP31 & ESP33) and ESP16 thought that priced sounded expensive but probably worth it.

Would you recommend this book to an instrumental/vocal teacher?

ESP19 was the only one who would not recommend this book; they would instead recommend *The athletic musician* (1997) or *Playing (less) hurt* (Horvath, 2010). Other HCPs would recommend

the book because it is “attractively produced and well-written” (ESP22), uses “clear, easy to read, simple language and good diagrams” (ESP28), and contains “good, practical, concise advice presented in an easy-to-read fashion” (ESP31). One HCP suggested it useful as a basic introduction but it “needs illustrations and case studies” (ESP29). ESP7 might recommend the book as they felt it was “a good, general guide for students”. The remaining six teachers would recommend the book commenting that it is “good value for money” (ESP4), would be interesting to their colleagues (ESP11), “doesn’t go into too much detail but references where future research might be followed up” (ESP15), and that the layout and structure “makes it a winner for busy teachers” (ESP33). One teacher suggested that it “has great potential for teachers and musicians, but is geared to a younger audience in terms of the aesthetics” therefore they would recommend it for sixth-form students (ESP9). Finally ESP16 would recommend it because “teachers need to know this vital info and be able to communicate it to students in an appealing way”.

The musician’s way: A guide to practice, performance and wellness

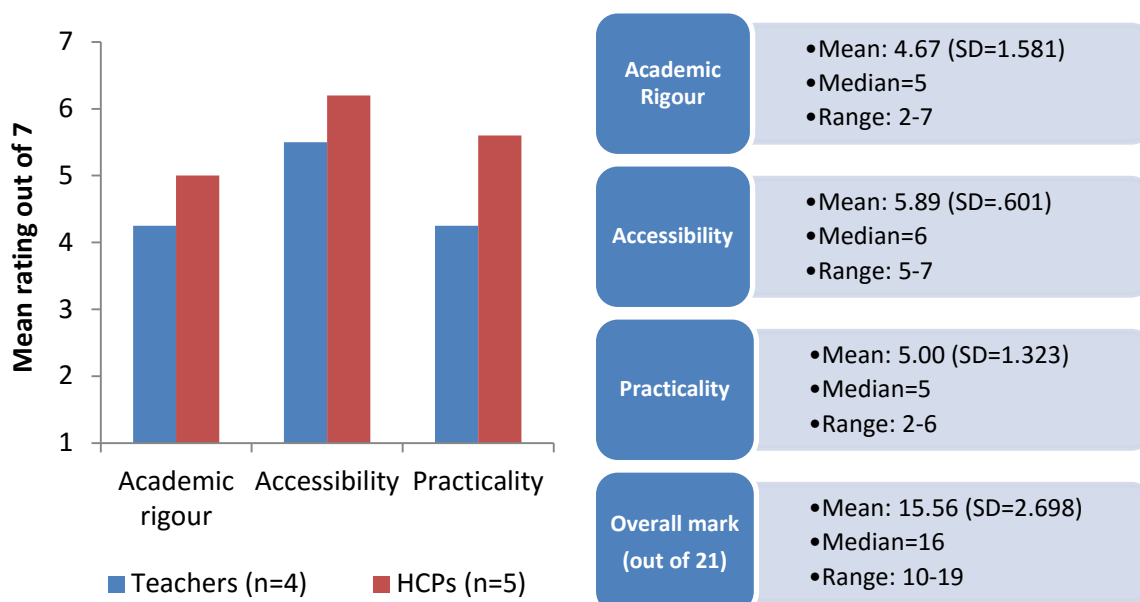
Reference: Klickstein, G. (2009). *The musician’s way: A guide to practice, performance, and wellness*. Oxford, UK: Oxford University Press.

During Stage 1 this book was reviewed by a neuroscientist/anatomist (ESP19) who already owned the book. During Stage 2 the book was reviewed by four teachers (ESP7, ESP15, ESP34 and ESP37), a physiotherapist (ESP24), psychologist/psychotherapist (ESP29), GP (ESP31) and rheumatologist (ESP31) who had not previously read the book.

First impressions: Teachers reported that the book “looks well set out” with small sections (ESP15), has a “good mixture of diagrams, pictures and text” and a well laid out contents page (ESP34), and “varying examples of pictures, quotes, and anecdotes” (ESP37). ESP37 also commented that the chapters appeared to be “a little bit muddled” without a clear structure. Two HCPs commented that the book being published by Oxford University Press (OUP) informed them that it should be worthwhile, well-written and have been subject to intensive peer review (ESP30 and ESP31). The physiotherapist (ESP24) suggested that the cover was not very eye catching but the contents appeared well structured and there was a “nice inclusion of personal experience and anecdotes”. ESP29 suggested that the author appears well-read but the book is “a bit superficial in the psychological area” although it does appear to be “user-friendly, written in clear language” and with good quotations coming from all genres. She suggested that it should be called “The Performers’ Way” as it does not include information about other aspects of being a musician.

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs.



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic Rigour: The teacher who rated the academic rigour as 2 out of 7 commented that there is a bibliography at the end but little or no research mentioned through the book (ESP7). The teacher who rated it as 6 out of 7 suggested that it “doesn’t appear academically rigorous (no referencing) until you get to the back” where there is an extensive bibliography and notes (ESP15). Another teacher believes “there was a real attention to detail” but that by covering so many aspects there were inevitably parts missing. The HCPs rated this book more highly than the teachers; ESP19, ESP29 and ESP31 suggested that this book is not intended as an academic book but is “very adequately research and referenced” (ESP31), “appears to give good advice, balanced and without any of the obsessiveness sometimes seen” (ESP19), and “draws on a range of appropriate sources” (ESP29). The physiotherapist (ESP24) commented that minimal references are given therefore she suspects a lot of content is based on “a wealth of personal experience”.

Accessibility: ESP7 suggested that the book “is easy reading with no medical terms” and ESP15 liked the short sections but felt that as it is “a VERY big book” a teacher would be unlikely to read from cover to cover. A few HCPs suggested that it is suitable for teachers to recommend to students rather than to other teachers. ESP24 commented that it makes “good use of text and relevant photos” making it easy to use with a student or to suggest that the student reads relevant sections and ESP19 suggested that students would read this book “because of the breadth of its approach”. ESP29 commented that it is “not addressed to teachers” but does contain information of relevance: she particularly enjoyed the emphasis on “auditioning for the most suitable teacher” which she reported does not often happen. The GP believes the book strikes “a very good balance of basic information for music teachers” and problems are set within the context of strategies for effective practice and performance making the content more accessible (ESP31).

Practicality: ESP7 suggested that the book would only be useful if you were “completely new to music/teaching and had no idea how to get organised or practice” and ESP37 reported that some sections were of interest but most of it was aimed at performers rather than teachers. ESP19 suggested that the book is “practical though it doesn’t try to be comprehensive on health” and ESP24 believes it is a “good book which students would relate to as written by an experienced performer”. ESP29 reported that the self-care information is clearly presented but she identified

deficiencies in the sections relating to the psychological aspects of performing and suggested that the book is weak on addressing interpersonal and social contextual problems. ESP31 described it as “a first class guide to effective strategies for developing practical musicianship” that may be more suitable for students (as the reader is often advised to consult a teacher) but remains an “excellent resource and ‘check-list’ for teachers”. He also suggested that judging from his clinical experience the information on injury prevention may be unfamiliar to many teachers.

Would you buy this book?

At the time of the study this book was available from the publisher for £15.99: at this price five respondents would buy it (ESP15, ESP19, ESP24, ESP29, & ESP31) and three would not (ESP7, ESP34 & ESP37).

Would you recommend this book to an instrumental/vocal teacher?

Two teachers would not recommend this book; ESP7 found it “quite condescending”, felt that most of the advice is drawn out common sense and commented that it is “American in style”. ESP34 would not recommend it as she believes an experienced musician would already have integrated the material into their practice: she suggested that a shorter, cheaper book might be more practical. ESP37 might recommend the book “if a teacher expressed a concern that was covered in the book” but believes there are many areas of interest to teachers that are not included. One teacher (ESP15) and all of the HCPs would recommend it, mainly for use with students. ESP24 suggested that it is aimed at students but a good reference for working musicians and HCPs. ESP29 believes it will be useful in her work with students because it covers topics in an accessible manner, but she did suggest that it is sometimes less successful in detailing how to achieve the goals it set out and that because it is written for all genres there are different shortcomings for different groups. ESP31 would recommend it because it is readily understood, integrates healthy habits with the development of musicianship and includes information on injury prevention and performance anxiety; however, he would have liked more practical guidance on correct versus disordered breathing.

Playing (less) hurt: An injury prevention guide for musicians

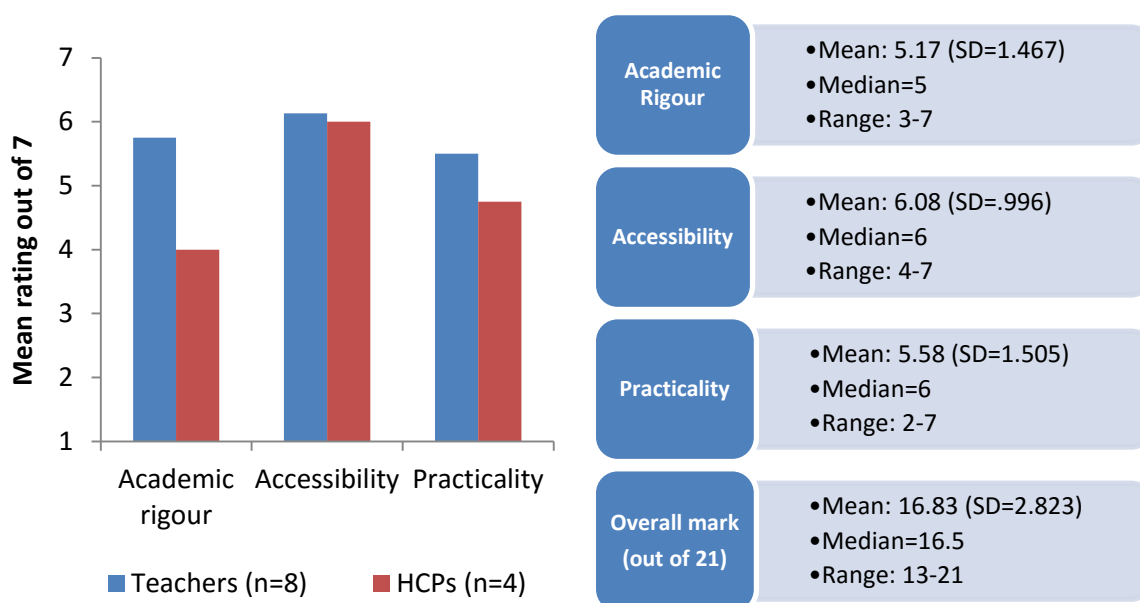
Reference: Horvath, J. (2010). *Playing (less) hurt: An injury prevention guide for musicians*. Milwaukee, WI: Hal Leonard Books.

During Stage 1 this book was reviewed by a neuroscientist/anatomist (ESP19), a rheumatologist (ESP31) and a GP (ESP31) who already owned the book. During Stage 2 the book was reviewed by eight teachers (ESP1, ESP2, ESP7, ESP9, ESP11, ESP14, ESP17, and ESP33) and a physiotherapist (ESP24) who had not previously read the book.

First impressions: Teachers’ first impressions were mainly positive, e.g.: “liked the cover...found the intro interesting but a bit wordy” (ESP11), “the book looked a reasonable size” (ESP17), “I liked the amusing pictures...and the summaries at the end of chapter...Front cover eye catching” (ESP2), “Written by a cellist and endorsed by Janos Starker. I’m interested!” (ESP7). ESP33 chose to read this book first “because it looked appealing” with well-illustrated exercises and because it was written by a cellist who has been through the process of injury and recovery. The physiotherapist (ESP24) commented that it is a nice size with an eye-catching cover, is reasonably priced, clearly laid out with a good balance between text, diagrams, photos and case studies and is “written from a musician’s perspective for all health professionals involved with musicians”. ESP1 reported that they were put off by the ungrammatical title and ESP14 found it “slightly large and impractical for carrying around” and that the text size was “quite small with dense paragraphing”.

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs.



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic rigour: The teachers rated the academic rigour more highly than the HCPs. They commented that they “liked the attention to detail, the clear diagrams, the citations” (ESP1), “the facts seem to be accurate” (ESP2), “seems well researched...and has a comprehensive chapter on resources and further help” (ESP7), and “the references to contemporary research added weight to the academic rigour” (ESP9). One teacher believes they are not qualified to assess academic rigour but found several sections of interest (ESP17) and another teacher commented that although there is a very good bibliography there were few notes and some of the photos could have been labelled more clearly (ESP33). The neuroscientist/anatomist and GP suggested that the book is not intended to be academic but contains generally reliable information (ESP19 and ESP31). The physiotherapist stated that they assume the useful tips are personal opinion as they are not referenced (ESP24).

Accessibility: Teachers commented that it is “written in an easy style with humour” (ESP7), “well-structured with clear objectives” (ESP9), “designed to be easily understood” (ESP17), and “an easy read, explaining things in layman’s terms” (ESP33). Despite suggesting that it is accessible, ESP1 did not think it would be much use for teachers and ESP14 suggested that the writing is at times “dense and rather scholarly” meaning it would not be their first choice for a “quick, concise reference for instrumental lessons”. Despite reporting that the “matey” way in which the book was written made it easy to understand ESP17 actually found this style “slightly tiresome”. The HCPs commented that the book has an “easy style of prose, nice diagrams modern in appearance” (ESP24) and that the contents and profile of the author increase the impact and make it suitable for teachers and “likely to be accepted...because of the author’s background and history of injury” (ESP19). The GP (ESP31) reported that it is easy to understand but there is “no conventional index for ease of reference”.

Practicality: Responses relating to practicality were generally positive; however one teacher suggested that “it is heavily geared to string performers rather than teachers and there is very

little on keyboard players” (ESP1). ESP33 suggested that she believes the content is mainly common sense and most teachers are already aware of the need for proper warm ups. ESP7 believes the book would be useful for students, teachers and full time players as it has “plenty of clear guidelines on how to avoid and/or deal with playing-related injuries”. Three teachers were positive, commenting that “all teachers should have access to information of this nature” (ESP2), “any teacher concerned for good practice habits would be able to use this as a reference book” (ESP9) and “I have found myself quoting sections to pupils and colleagues” (ESP11). The physiotherapist (ESP24) suggested that it is useful to dip in and out of. ESP19 and ESP31 commented on the content relating to stretching suggesting that the book emphasises stretches rather than warm ups (ESP31) and recent information regarding “the advisability of stretching and/when if this should be done” should be incorporated (ESP19). Both of these participants also reported that the book is “generally practical” and that it “provides good general food for thought” (ESP31).

Would you buy this book?

At the time of the study this book was available from the publisher for approximately £20: at this price five participants would buy it (ESP2, ESP7, ESP11, ESP24 and ESP31), one suggested they could get a cheaper copy and would buy it (ESP1), ESP30 would buy it if a new edition was released and four participants would not buy it (ESP9, ESP14, ESP17 and ESP33).

Would you recommend this book to an instrumental/vocal teacher?

Two teachers would not recommend this book, stating that “it is not adequately relevant to teachers” (ESP1) and “whilst this resource is very in-depth, accurate and academically stimulating, I feel there is more concise, practical and lighter literature out there” (ESP14). The remaining teachers would recommend it because it “raises awareness of potential problems” (ESP2), “seems to cover all the many possibility for injury that await the unsuspecting musician” (ESP7), “is very informative and has plenty of practical advice” (ESP9), is “a good resource for dipping into”, teachers could benefit from reading it (ESP17) and it is a great resource for teachers (ESP33). The four HCPs would also recommend it because it is a “good overview, entertaining, practical” (ESP19) and has a “nice layout, good mix of content and relevant recent surveys” (ESP24). The GP (ESP31) would recommend it despite some reservations stated previously.

The athletic musician: A guide to playing without pain

Reference: Paull, B., & Harrison, C. (1997). *The athletic musician: A guide to playing without pain*. London, UK: Scarecrow Press.

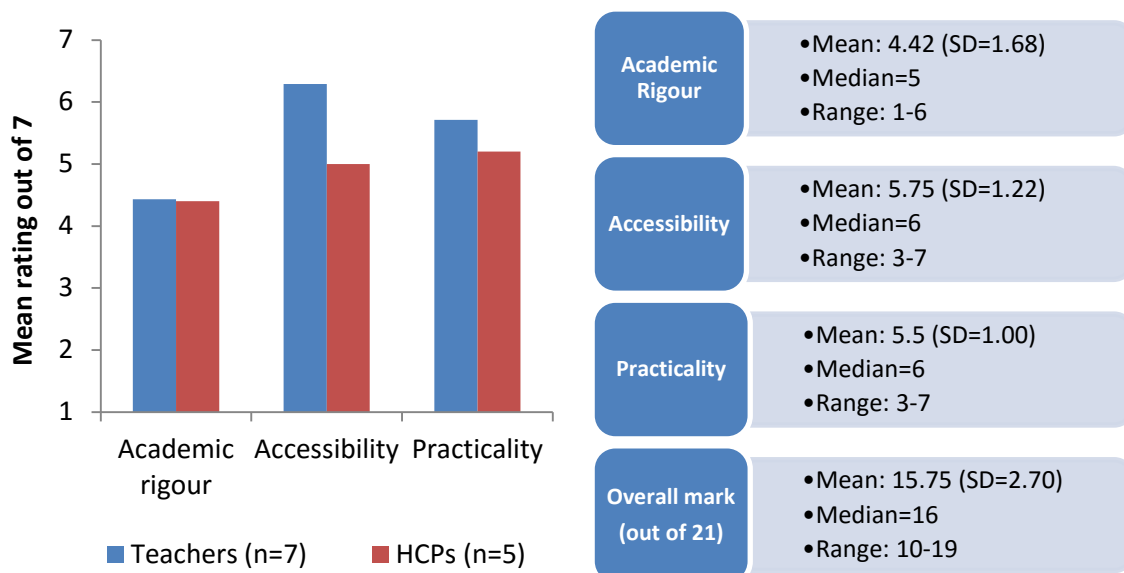
During Stage 1 this book was reviewed by a teacher (ESP16), neuroscientist/anatomist (ESP19) and Alexander Technique teacher (ESP23) who already owned the book. During Stage 2 the book was reviewed by five teachers (ESP7, ESP8, ESP9, ESP11, ESP14, & ESP17), a teacher who is a massage therapist (ESP33) and three physiotherapists (ESP24, ESP28 and ESP36) who had not previously read the book.

First impressions: Participants’ first impressions were generally favourable and they commented that “the title immediately piqued my interest” (ESP36), the book looked like “a professional publication” (ESP8), and they “liked the cover” (ESP11) as it was “aesthetically pleasing” (ESP14). The book was perceived to be “of a reasonable size with plenty of pictures” (ESP17) and the inclusion of “lots of photos and diagrams” (ESP7) was received positively although the quality and age of the pictures was a drawback for some (ESP9, ESP24). Three participants had “high expectations” based on the co-authorship between a musician and physiotherapist (ESP11, ESP24, & ESP33). ESP28 suggested that there was too much detail on anatomy, biomechanics,

ergonomics and exercise and not enough on psychological issues, performance anxiety, risk factors or musculoskeletal disorders.

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic Rigour: Three HCPs suggested that the book “seems reliable” (ESP19), is “accurate and well resourced” (ESP36), and the “principles given are still valid and sound” despite the references being dated (ESP28). One of the teachers commented that the book is academically structured but not a dense or inaccessible read (ESP14). The AT teacher thought the book was too “specific and ‘mechanical’ in its approach” (ESP23) and a physiotherapist commented that the book is “very much based on personal opinion” and the references are dated and do not refer to “evidence based studies on physiological/exercise interventions” (ESP24). Two teachers (ESP7 and ESP9) also commented on the lack of reference to, or critical analysis of, relevant research. ESP8 reported that he disagreed with the photo of ‘correct’ piano posture.

Accessibility: Four teachers found the book accessible because it includes “plenty of illustrations and not too many medical terms (ESP7), “a useful glossary of terms” (ESP9) and easy to navigate chapters (ESP14). ESP16 reported that the diagrams help the reader to “see the biomechanics at work” and that exercises are clearly explained: however she noted a lack of information regarding core stability. Conversely, ESP11 found the descriptions of exercises confusing on first reading. Two HCPs (ESP19 and ESP36) thought that teachers would find the book accessible but ESP24 was “put off by the dictatorial style of writing” and thought that the anatomy section was not necessary. ESP28 commented that there was a lot of jargon and “anatomical and biomechanical concepts and vocabulary” which might be difficult for musicians with no medical background to understand.

Practicality: The teachers found the photos and descriptions of exercises and postures useful and believed they would be of practical use in lessons: in particular, this book was deemed useful for beginning teachers and advanced students (ESP9 and ESP14) but not vocal teachers (ESP17). One of the physiotherapists (ESP36) found the “hints and tips in injury prevention” useful and

suggested they would pass them on to musicians, and another HCP (ESP19) commented that the book presents clear solutions that are not “faddy or obscure”. However, the remaining two physiotherapists were not sure about some of the exercises in terms of musicians needing guidance from a professional (particularly a physiotherapist) to undertake postural corrections effectively (ESP28) and suggesting that some of the activities and approaches were dated (ESP24).

Would you buy this book?

At the time of the study this book was available from the publisher for £17.99: at this price six participants would buy it (ESP11, ESP14, ESP16, F19, ESP23 and ESP36), one would borrow it from a library (ESP9) and six would not buy it (ESP7, ESP8, ESP17, ESP24, ESP28 and ESP33).

Would you recommend this book to an instrumental/vocal teacher?

Nine participants (4 HCPs and 5 teachers) would recommend this book because it contains “good information that I haven’t yet seen anywhere else” (ESP8), “is a good starting point, and easy to understand” (ESP19), has “practical information which can be applied immediately...with no special training or equipment” (ESP36), and “is of real practical use” (ESP33). Three of these participants qualified that they would recommend the book to teachers working with advanced pupils because it is “geared to performance preparation and practice at quite a high, constant level” (ESP14). The two physiotherapists who expressed reservations about the practicality of the book would recommend it with the reservations that much of the advice is dated and the book should not replace the assessment and diagnosis given by a health professional (ESP24, ESP28). Similarly, one of the teachers commented that they would recommend the book as a good education for students but also suggest that students with particular symptoms ought to seek help from a medical professional (ESP16). One teacher suggested it’s not a book they would be likely to purchase unless they had a problem; although they identified that “if you read it first, the problem may not have developed!” (ESP7). The remaining participants would not recommend the book because “it is based on the experience of the authors without any peer review or independent evaluation” (ESP23) or they would be “more inclined to recommend books on the Alexander Technique” (ESP9).

Other comments: Teachers suggested that this is “a great book for music students” (ESP9), and that it is “encouraging, in that even the most drastic of problems can have a happy ending!” (ESP7). The “human story” was important to ESP33 as it made the book “feel more personal and relevant to every musician” which made it “far more than a useful manual of how to play without pain”. In contrast, ESP23 suggested that although it is “well written and an impressive personal account” there is “no evidence that its recommendations would be effective if applied in general”. Finally, one of the voice teachers who reviewed the book commented that “it was interesting to me that musicians accept pain as normal. Singers know that pain or discomfort is a signal that they are doing something wrong” (ESP17).

Secrets of performing confidence: For musicians, singers, actors and dancers

Reference: Evans, A., & Evans, A. (2013). *Secrets of performing confidence: For musicians, singers, actors and dancers* (2nd ed.). London, UK: Bloomsbury Methuen Drama.

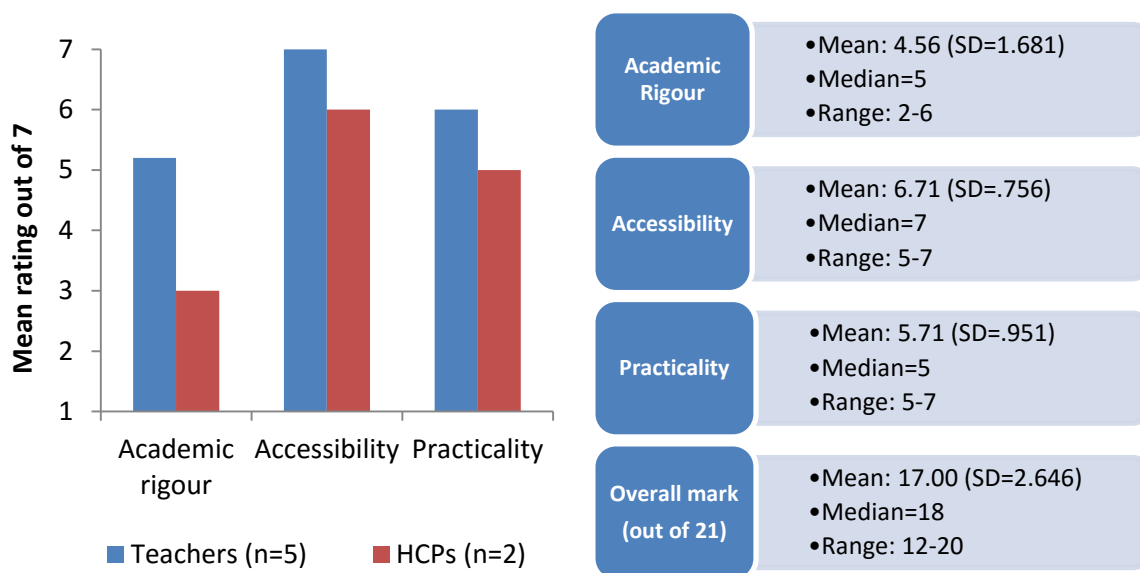
This book was not reviewed during Stage 1. During Stage 2 the book was reviewed by five teachers (ESP3, ESP6, ESP9, ESP16 and ESP34), a neuroscientist/anatomist (ESP19), and a rheumatologist (ESP30) who had not previously read the book.

First impressions: Three teachers commented on the book being a good size (ESP3, ESP9, ESP16) and ESP16 liked the title which focused on “the positive, rather than the negative” and found the

foreword engaging, but ESP3 and ESP34 were not attracted to the front cover. ESP6 commented that the book has a “pleasant and accessible style” that considers the creative personality, a “good grasp of modern freelancing for orchestral musicians”, and helpful summary boxes. The neuroscientist/anatomist (ESP19) commented that it has the look of “the self-help genre, full of life scripts, step guides and personality traits”. Likewise the rheumatologist felt that parts of the book were “more trivial than the previous OUP listed book” (ESP30).

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic Rigour: There were few comments regarding academic rigour. Teachers’ ratings were generally much higher than HCPs, with the exception of ESP3 (rated the book as 3 out of 7) who commented as follows:

This book demonstrates the author's research into finding useful quotations from actors and musicians. There are references to others' research into the field of the psychology of performing which gives this book a limited sense of academic rigour. There are large numbers of anecdotal quotes which are largely illustrative rather than interrogative, by which I mean the author does not argue the pros and cons of any other author's research.

The neuroscientist/anatomist (ESP19) referred to it as “cod psychology (despite the author’s claims to be a psychologist)” and felt that it was intellectually lazy as it focuses on a limited range of sources that are now outdated.

Accessibility: The book was rated very highly for accessibility, especially by the teachers who commented that it is “easy to understand and easy to ‘dip into’ at any point” (ESP3), “cuts straight to what you need to know, is written in accessible and non-patronising language” (ESP6), contains “very little jargon” (ESP34) and has “nice text boxes, case studies, statistics etc.” (ESP16). ESP9 commented that the book is very accessible as it “has the format of a self-help book which seeks to address and assist the mental well-being of performers”. The neuroscientist/anatomist

suggested that it is “quite jargon free, easy to read” but that most adults will know the contents because “they are adults and have lived a little” (ESP19).

Practicality: The book was perceived by teachers as a useful and practical book to give to a student to read and then discuss in lessons, e.g.: “it would make good recommended reading for students, especially if they are suffering from performance anxiety” (ESP9), “it would be one to take away rather than use in lessons, perhaps, but many of the ideas could be discussed and worked on in lessons” (ESP16). ESP3 suggested that they had found the book useful as a singing teacher because it has useful exercises to help students with performance anxiety, and it is also useful to her as a public speaker and concert/performance/creator/organiser/facilitator. ESP19 commented that it is “practical at a basic level, though it is easier to read something than do it”.

Would you buy this book?

At the time of the study this book was available from the publisher for approximately £19: at this price two respondents would buy it (ESP23 and ESP33), ESP34 thought it was a bit expensive, ESP6 was going to suggest that their school buy a reference copy and two participants would not buy it (ESP9 and ESP19).

Would you recommend this book to an instrumental/vocal teacher?

One teacher (ESP9) would not recommend this book and the two HCPs might: ESP19 would possibly recommend it to a teenager and ESP30 commented that they would “just about” recommend it. The remaining four teachers would recommend this book. Unfortunately the question allowing participants to explain why they would or would not recommend the book was accidentally omitted from this review template on the survey software. ESP19 made some further comments using the ‘other comments’ box: he suggested that the sources of quotations used were “disappointingly few in number” and there were several significant omissions in terms of topics (e.g. creatively in actors, and improvisation in jazz musicians). He also felt that the health care section did not contain enough depth and omitted key topics such as drug abuse.

What every musician needs to know about the body

Reference: Conable, B., & Conable, B. (2000). *What every musician needs to know about the body*. Chicago, IL: GIA Publications.

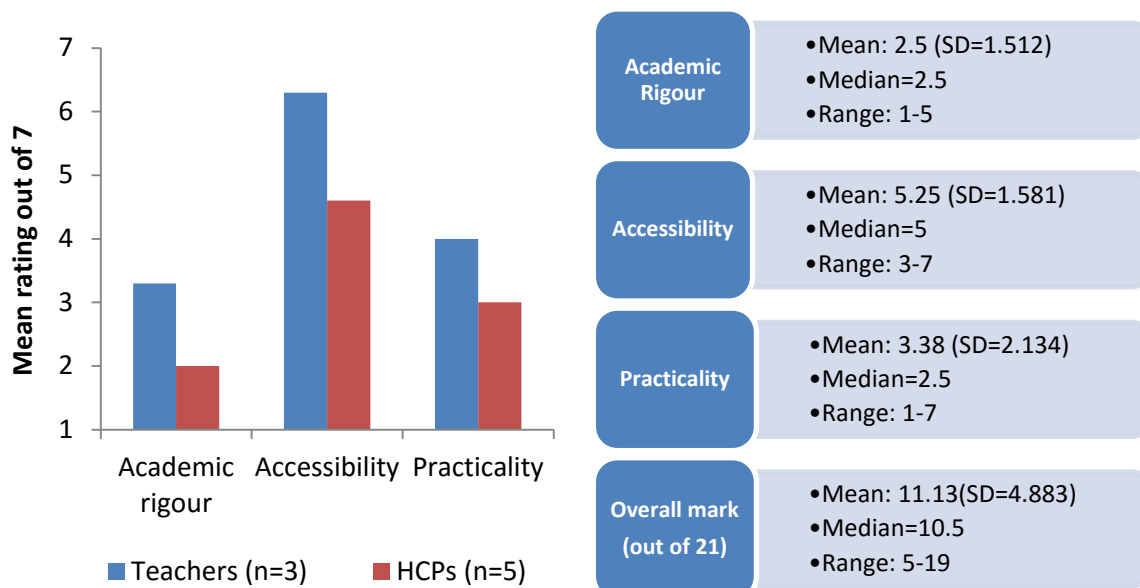
During Stage 1 this book was reviewed by an Alexander Technique teacher (ESP23) who already owned the book. During Stage 2 the book was reviewed by three teachers (ESP6, ESP11, and ESP33), a neuroscientist/anatomist (ESP19), a physiotherapist (ESP24), a rheumatologist (ESP30) and a GP (ESP31) who had not previously read the book.

First impressions: The teachers reported mixed reactions: ESP6 described it as a large book with mixed up information and a confusing layout written in an “irritating tone”, ESP11 “liked the spiral binding”, and ESP33 liked the size of the book and the spiral spine, thought it looked fun, that the illustrations were detailed and clearly laid out, and it would be useful whether or not the reader has taken the associated course. In contrast, the HCPs reported negative first impressions. The physiotherapist thought the multiple pictures and diagrams made concentration difficult and found the structure and layout “not user friendly and irritating”. She suspects it is aimed at primary school children rather than adults and suggested that American colloquial terms tend to “raise eyebrows in the UK!”. Likewise, ESP19 reported that there was not much text and it was surrounded by jokey images; he suggested that there were a number of clear anatomical diagrams but they were used poorly. The rheumatologist found it disappointing, suggesting that it is “simplistic, muddled and not always accurate” with a patronising presentation style (ESP30). The GP commented that the “cheer-leader style comments” suggest it must be a book for

children, the blurb on the back cover is not informative, the order of the book does not match the course that it is designed around and it is clearly designed for use in America.

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic rigour: There was a range of reactions regarding the academic rigour of the book. ESP6 thought that the anatomical drawings were great but commented that the statements and claims made in text were not supported by scientific study, comparison with other approaches or references and ESP11 commented that it is “like a book aimed at children/teenagers”. ESP33 suggested that she cannot tell how academically rigorous the book is but that it does not appear to be aimed at “that kind of audience”, which in her opinion is one of its merits. The Alexander Technique teacher stated that it is “mostly anatomically correct (according to Gray’s)” but that some of the opinions need to be referenced and verified (ESP23). ESP19 suggested that the book does not have any academic rigour and ESP24 stated that there was a “total omission of recognised concepts of kinaesthesia/spatial awareness and the brain’s homunculus map, which should be key in a book about body mapping”. Furthermore she commented that the text does not cite any references or research and there is no mention of muscle memory, movement sequencing or an explanation of what body mapping is (ESP24). The GP (ESP31) suggested that “such a book cannot be expected to demonstrate academic rigour” but it “should not contain glaring omissions – e.g. the shoulder is present in terms of scapular function but there is no mention of the all-important gleno-humeral joint” (ESP31) and the random interjection of terms such as ‘rotator cuff’ and carpal tunnel’ are not explained.

Accessibility: ESP6 suggested that the book has “clear anatomical pictures to use with students when describing anatomy” but also an annoying tone and a lack of depth. The other teacher who commented suggested that it is “highly accessible and the Latin terms are explained” and she found it “very easy to dip into and use as a quick reference” (ESP33). The physiotherapist described it as an “affordable resource, possibly good for young children to catch their attention” but commented that the content is “vague and woolly” and therefore not helpful (ESP24). The GP

suggested that “what there is here is easy to understand” but that the book appears to be “somewhat short on accurate and essential explanations” (ESP31). Furthermore, the neuroscientist/anatomist commented that “it’s not so much a case of accessibility as one of whether what is being presented is useful or comprehensive” and that the use of glib statements such as “you will never rip your rotator cuff!” is misleading as rotator cuff syndrome is quite common amongst some instrumentalists (ESP19). The rheumatologist suggested that it may be accessible but he would “have qualms about recommending the content” (ESP30).

Practicality: Only one teacher (ESP33) offered a comment and she suggested that it is quite practical and anyone who has done AT, yoga or Pilates should be able to use it but it would more practical if the reader had been on the associated course; she suggested that the book does require that the teacher really understands and uses the associated methods, but commented that “no method is any good if it is passed on without personal practice and understanding” (ESP33). The physiotherapist stated that there are “some reasonable diagrams” but that the practicality is otherwise poor (ESP24) and the GP suggested that it is “not a health resource” but a quick read through may correct a few faulty concepts and suggest areas for improvement. The neuroscientist/anatomist rated the book very low on practicality commenting that it is surprising that so little of the text is “linked to the playing of actual instruments” and the references that are included “suggest that the authors have very limited ideas about the application of their central concept” (ESP19). He also commented that the book “promotes the notion that the pelvic floor pumps up and down during breathing” which he states is “nonsense”; likewise he disagreed with the inclusion of “the strange idea that the spine lengthens and shortens during the breath cycle”.

Would you buy this book?

At the time of the study this book was available from the publisher for approximately £15: at this price two participants would buy it (ESP23 and ESP33) and six would not (ESP6, ESP11, ESP19, ESP24, ESP30 and ESP31).

Would you recommend this book to an instrumental/vocal teacher?

The Alexander Technique teacher (ESP23) and one teacher (ESP33) would recommend this book; ESP23 stated that it “deals with the basic misunderstanding about one’s own body” in terms of the positioning of the spine, how the arms and legs extend from and are connected to the torso and the location of various joints. ESP33 would recommend it because “it is set out so clearly and it’s easy to use as a quick reference” although she also suggested that the reader needs to know what they are doing and have a good grounding in your own body mapping. She did also comment that there could be more detail on how to achieve “such poise and healthy body mapping”. This teacher had visited the website and was interested in buying an alternative book that is more relevant to her instrument (keyboard) and was disappointed that there were no practitioners working in the UK. In comparison, ESP6 would only recommend it for the anatomical drawings but not the text and the remaining teacher and ESP11 would not recommend it and commented that she “found the bold print slogans at the bottom of each page very annoying”.

The other HCPs would not recommend the book. ESP19 suggested that the small amount of useful information it contains is “presented with little or no context indicating how it could or should be applied to musicians”; he also described it as “patronising, simplistic, very limited (skeleton only), weak understanding with many errors” and stated that the section on the brain is nonsense. He said that he is “actually all for body mapping (perhaps even the trendy name will help musicians engage with it” but anyone teaching or writing about it needs good knowledge (which does not have to be technical but does need to be accurate and have practical, instrument-specific applications). ESP24 stated that the text presented is “lightweight and confusing” although the

course the authors run may be better; she also commented that reading the book from cover to cover was “like experiencing one giant brainstorming session from the authors – not a good experience!”. ESP31 commented that the book may not be a wise choice “unless perhaps used alongside the 6 hour course offered by the authors” as some of the information (or lack of) could “promote misunderstanding and confusion”.

What every singer needs to know about the body

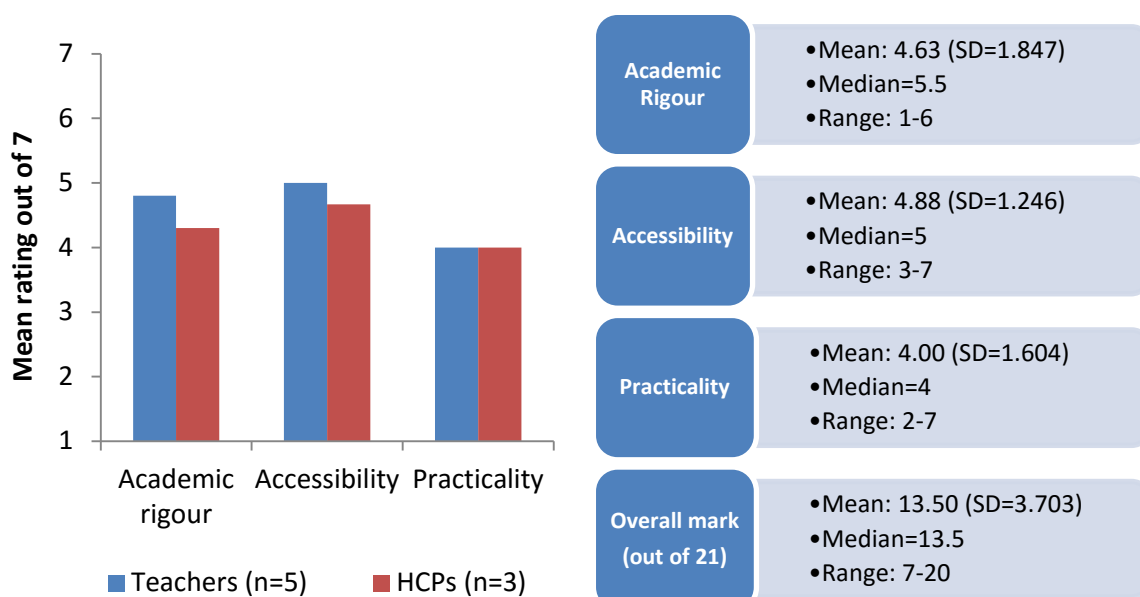
Reference: Malde, M., Allen, M., & Zeller, K-A. (2013). *What every singer needs to know about the body*. San Diego, CA: Plural Publishing Inc.

This book was not reviewed during Stage 1. During Stage 2 the book was reviewed by five teachers (ESP3, ESP5, ESP10, ESP13 and ESP18), a neuroscientist/anatomist (ESP19), a rheumatologist (ESP30) and a GP (ESP31) who had not previously read the book.

First impressions: Teachers reported mixed first impressions but none of them were overly negative, e.g.: “big book, quite heavy, looks very detailed, familiar diagrams” (ESP3), “nicely laid out with lots of space, good subheadings, many diagrams and lots of grey boxes containing things to try” (ESP5), “accessible, rather commercial and American...but on closer examination, quite technical and well-researched” (ESP10). ESP13 was put off carrying it around as it is quite large and was also negatively affected by the title as she would rather have a title that conveys what the book contains, “rather than claiming to tell all singers what they should know”. ESP18 was “slightly sceptical about this book on first reading the authors’ bios, as they are all licensed educators of a particular organisation” which suggests to him that it may not include a balanced perspective. The neuroscientist/anatomist reported that it “looks a little dry but clearly contains a lot of information” (ESP19) but the rheumatologist reported that his first impression of the book was “almost as bad as the Conable book reviewed previously” (ESP30). The GP commented that “the layout, purpose and authorship of the book are clear” but suggested that “it is not clear that there will be much about singer’s health or problems. It appears, rather, to be about performance enhancement” (ESP31).

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs.



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic rigour: Teachers made diverse comments with one suggesting that there are “not many references...Uses a lot of technical terms” (ESP10), another suggesting that it is “possibly not quite as academically rigorous, and I disagreed with some aspects” (ESP5) and a third suggesting that there is “a large amount of anatomy information, with perhaps too much detail at times” (ESP13). ESP18 was particularly negative suggesting that he was “extremely disappointed” because there are aspects that he recognises as factually accurate “interspersed with contentious opinions that are stated as fact” and furthermore there are very few references and what is there is “often merely internet diagrams and YouTube videos” (ESP18). Likewise, ESP19 picked up on the minimal number of references which he described as “a pity” because the content is built on anatomically correct information; although he did report some errors regarding the transverse arch of the foot and the “spine lengthening story found in Conable & Conable (2000)”. The GP also commented that it is not an academic book and it is not referenced but the material is correct (ESP31).

Accessibility: One of the teachers reported that the processes were “not only described well but explained through exercises for teacher/pupil to try themselves” (ESP5). In contrast, other teachers had difficulties using the book in terms of the heavy use of medical and anatomical terms (ESP18), it being difficult to “dip in and out of” the book but rather needing to commit to it (ESP13) and finding it difficult to understand and apply the technical information to remedy a problem (ESP10). ESP3 reported that although the body mapping term was new she skimmed the chapters on anatomy as it was largely the same as other contemporary resources; she did not find the shape or size of the book accessible despite it containing good material and suggested that “a simpler version would be more accessible to teachers”. The neuroscientist/anatomist (ESP19) commented that the accessibility would depend on the background of the reader; the book “makes a serious attempt to convey information” but there is sometimes “too much detail that misses the point” and there are terms that are not explained adequately, or labelled on the diagrams. The GP reported that the information linking body understanding to awareness is “well presented and accessible” and the practical work reinforces key points but there is key information missing: e.g. “there are just a few lines on preventing nodules” (ESP31).

Practicality: Once again, there were mixed reactions amongst teachers in terms of the practicality of the book. Two teachers were positive suggesting that the book is “an excellent resource for exploring the body and how it works when singing” (ESP5) and that “on returning to teaching after the holidays it was ideas from this book which I have retained and put into practice” (ESP3). ESP10 and ESP13 repeated their thoughts regarding the difficulties associated with accessing the information and putting them into practice and ESP18 commented that “much of this resource seems to be aimed at ‘debunking’ other methods of teaching, or more especially the imagery that is often used, for no apparent reason” (ESP18). The GP suggested that this is practical as a resource for performance enhancement but not as a ‘health’ resource and that it may be useful for conveying anatomical information and to reinforce body awareness (ESP31). He identified a particular omission relating to the use of the tongue. The neuroscientist/anatomist (ESP19) gave a detailed answer identifying the omissions and errors that the book contains, and in some places the unnecessary level of detail: e.g. “over-enthusiastic on naming muscles (this will simply confuse)”. This point was also mentioned by some of the teachers who suggested, for example, that “the level of detail in this book may be off putting” (ESP13) and “many teachers would not want to read through entire lists of names for individual muscles” (ESP18).

Would you buy this book?

At the time of the study this book was available from the publisher for approximately £32: at this price two participants would buy it (ESP3 and ESP5), ESP10 will ask their university to buy it, ESP19 would recommend it for library purchase 'if it was a little better', and four participants would not buy it (ESP13, ESP18, ESP30 and ESP31).

Would you recommend this book to an instrumental/vocal teacher?

One of the teachers has already recommended the book to an adult pupil (ESP5) and the GP (ESP31) suggested that he would not suggest it as a health resource but that the "clarity and size of anatomical diagrams might usefully supplement more classical and established singing texts". ESP3 would "certainly talk about the value of body mapping" and might recommend the book if teachers wanted a general anatomical resource. The neuroscientist/anatomist might recommend it although he believes there are better sources of information that contain more detail about key aspects of the voice; he also commented that "this is a serious attempt by authors with quite a lot of knowledge...if they could just improve a few key sections..." (ESP19). The rheumatologist was uncertain whether he would recommend it. Three of the teachers would not recommend it, for example because it was not "particularly user-friendly" (ESP10) or they believe it is "poorly written, poorly referenced, and very dangerous in terms of stating opinion of the authors of fact" (ESP18). ESP13 commented that "while it has its uses, I would not recommend this over other books" and also suggested that this book conveys "a way of thinking, as well as a science lesson" and that as a teacher she would rather have a book that conveys facts as opposed to opinions.

The biology of musical performance and performance-related injury

Reference: Watson, A. H. D. (2009). *The biology of musical performance and performance-related injury*. Plymouth, UK: Scarecrow Press.

During Stage 1 this book was reviewed by a rheumatologist (ESP30) and a GP (ESP31) who already owned the book. During Stage 2 the book was reviewed by nine teachers (ESP5, ESP8, ESP10, ESP15, ESP16, ESP17 and ESP18) and one physiotherapist (ESP28) who had not previously read the book.

Electronic format: This book was distributed on a CD-ROM partially due to difficulties sourcing hard-copies of the book, and partially to explore how participants responded to an electronic format. ESP1 chose to source themselves a hard copy and another teacher requested a hard copy (which the research supplied) after receiving the electronic copy (ESP17). Respondents who used the electronic format reported that this had affected their engagement with the book, mainly in a negative way, e.g.: "this was by far the hardest to deal with – I would much rather have had an actual copy!" (ESP5), "It was supplied on disc which I did not find very user friendly...I prefer to read books in my hand" (ESP15), and "I generally prefer reading books than a computer screen...Easier to go back and forth" (ESP28). However, a few respondents felt that the electronic format made accessing the resources easier, e.g. "it is useful to have on-line hard copies of diagrams" (ESP3), "you could flip between the PowerPoint items and the main text easily" (ESP17), and "the CD material...is well suited for a computer screen" (ESP28). ESP8 reported that they are "quite used to electronic media so it wasn't a problem" although they suggested it would be better as an e-book format with materials "directly clickable from the page"; another teacher commented that while the videos are useful to have separately, accessing them "disturbs the reading process" (ESP5).

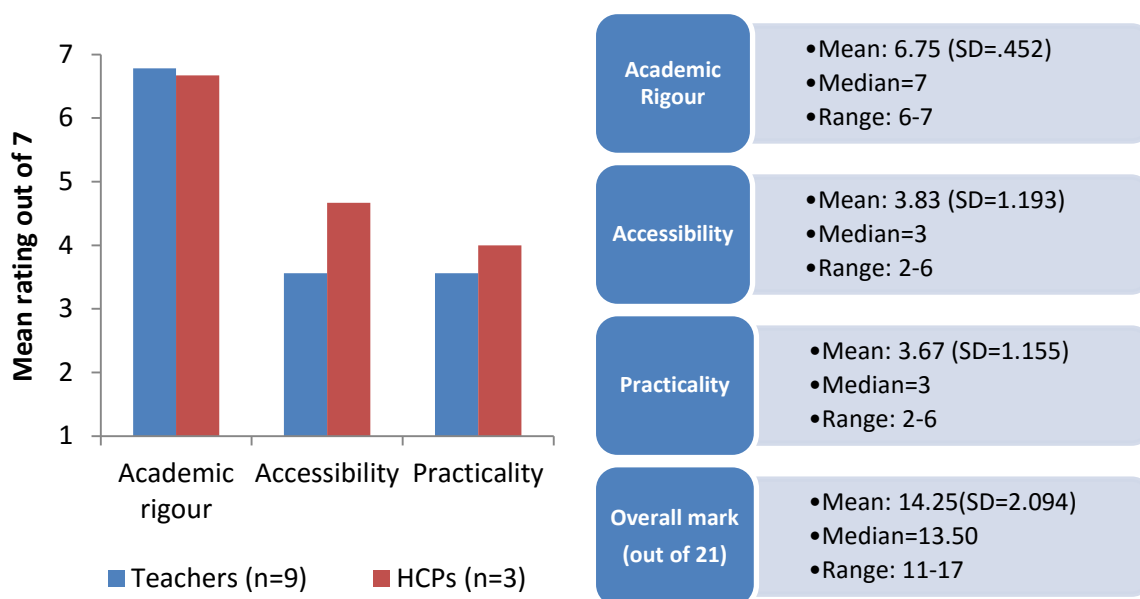
Supplementary materials: The animations and diagrams that accompany this book were rated very highly, with comments such as "they're brilliant! Simple and extremely effective in showing movement, and the effect of behaving in certain ways" (ESP1), "very helpful resources for working

in a studio" (ESP3), "a good resource for explaining to students visually" (ESP8), "provided an extra dimension to the main text" (ESP16), "very good, clear, simple, and useful teaching material" (ESP28). The GP described them as an "excellent resource for personal learning and for presentations to relevant audiences...I have used selected material during clinics" (ESP31).

First impressions: Many of the teachers seemed initially overwhelmed, e.g.: "handles well – big and heavy though and rather daunting" (ESP1), "extremely dense and academic" (ESP10), "the initial writing seemed very detailed and a little dry" (ESP18), "this looked like a very large and very difficult book to get through." (ESP17). One teacher commented that it had an "attractive front cover and a clear title" (ESP16) and another felt that it "thoroughly covers all relevant aspects of vocal anatomy and performance...the diagrams are clear and interesting and easy to understand" (ESP3). The physiotherapist commented that it contains "a lot of high quality technical/scientific information" but that "it is perhaps an 'overkill' for the average musician" (ESP28). He also suggested that as this is "a textbook rather than a guide" he would recommend it as a scientific follow-up to read for more information on anatomy, physiology, neurology for those who want to learn more.

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs.



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic Rigour: This book received very high marks for academic rigour with all participants rating it as 6 or 7 out of 7. Teachers suggested that "it's heavy-going but absolutely definitive...I particularly appreciate all the citations and have followed many of them up" (ESP1), "very rigorous and thorough" (ESP3), "incredibly detailed, referenced and rigorous" (ESP8), and "very well researched" (ESP10), "I am unqualified to assess academic rigour, but this sure seemed rigorous to me!" (ESP17), "this book is very academically rigorous, as I believe it is really an academic text book at heart" (ESP18). One teacher commented that "it inspires confidence that it is trustworthy and reliable and not 'pop' medicine! I think it is an excellent compendium with much of the medical information needed all in one book" (ESP16). Another teacher felt it may be "too academic" as they would prefer something that yields answer quickly because they are very

busy and “don’t have the time to read lots of background information” (ESP15). Similarly, the physiotherapist suggested that there may be too much scientific information for musicians and teachers (ESP28).

Accessibility: One of the teachers (ESP18) commented that this book is as a medical and/or academic resource that is “very heavy on technical language and style” but he did report that the terms and jargon used are explained well. Another teacher felt that although it is very scientific and medical they felt they could understand it, primarily as a result of “30 years of CPD courses (including one on Vocal Anatomy and Physiology)”, they also suggested that information like this is “never easy to understand without ongoing explanation by an expert” (ESP3). The teachers who reviewed this book felt that it contained very valuable information but in such detail that it is unlikely to be accessible by all, e.g.: “Brilliant, if you want the information in the depth it gives, but I think it is too detailed for most people” (ESP5), “very useful information, but you would have to be very academically confident to read it all” (ESP8), “the book is quite hard going for someone like me (not an academic)...However, it proved rewarding in the end” (ESP17). The GP who reviewed this book echoed the teachers’ experiences with a comment that “all such texts require personal effort. I would regard this text as worthy of the effort” (ESP31).

Practicality: The teachers who reviewed this book perceived it as a valuable learning aid that would improve their teaching, e.g.: “if you really read and understand this book it would improve your teaching” (ESP8), “the knowledge which the teacher acquire through this resource will significantly improve quality of lessons” (ESP3), “you wouldn’t want to use the book in the lesson – too demanding...But I’ve already used some of the information to inform my teaching” (ESP1), and “it would probably be useful in training” (ESP10). Another teacher suggested that using this book in lesson “would be similar to a driving instructor using a manual on how to build a car as a basis for teaching how to drive” (ESP18). All of the teachers appeared to have learned something from their reading, in particular one singing teacher commented that they learned about the action of the diaphragm which they had previously been wrong about; they also reported that they took more notes than they had from other books they reviewed and “have found some of the rest of the information very useful” (ESP17). The GP commented that whether this book was practical or not would depend on “whether or not music teachers think such background understanding is vital to responsible teaching” (ESP31) and suggested that some of the concepts may be better understood through practical demonstrations.

Would you buy this book?

At the time of the study this book was available from the publisher for £34.95: at this price two participants would buy it (ESP3 and ESP31), ESP1 had bought a copy for £30, ESP30 would buy it if a new edition was released, and eight participants would not buy it (ESP5, ESP8, ESP10, ESP15, ESP16, ESP17, ESP18, & ESP28).

Would you recommend this book to an instrumental/vocal teacher?

Three of the teachers would not recommend this book as it contains too much information for most purposes or to be of practical use (ESP5, ESP15, ESP18). Three other teachers might recommend the book but only to “academically interested teachers” (ESP8) or “during training” (ESP10). Three teachers would recommend the book, for example because it is “so thorough and explains things, always relating them to how they affect musicians” (ESP1), “is a very useful reference book” (ESP3) and would be of interest to teachers “especially if they feel they have time to get through it” (ESP17). All three of the HCPs would recommend the book; the GP made the following statement:

Only excellence in music training and teaching can minimise the physical and emotional problems of players. A clear understanding of some basic anatomical and physiological principles seems essential to modern teaching methods. This text can provide the required information. (ESP31)

Indirect procedures: A musician's guide to the Alexander Technique

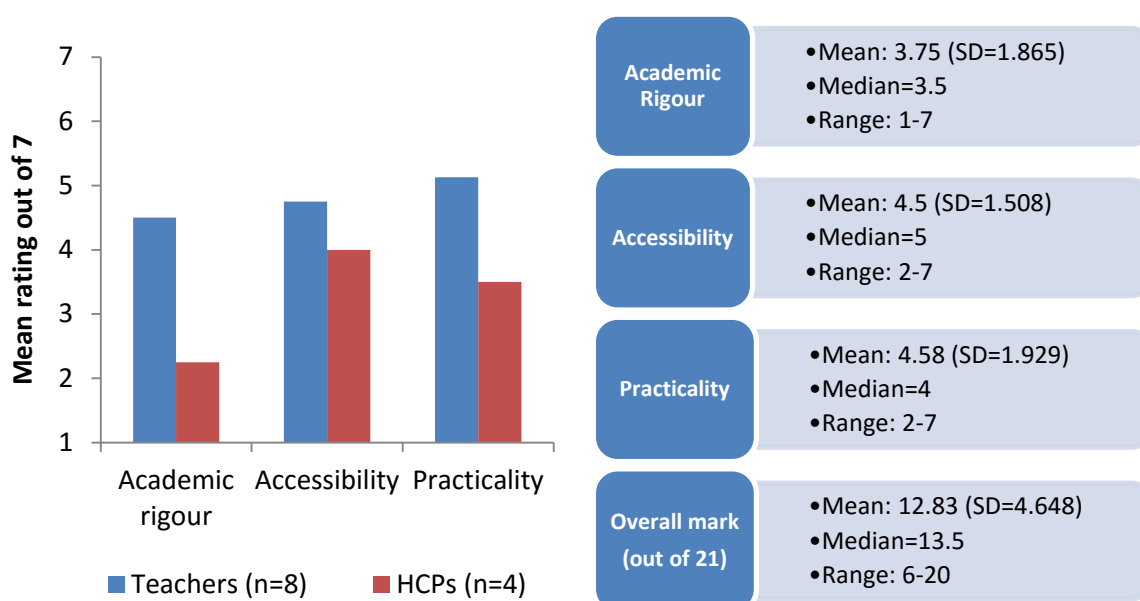
Reference: de Alcantara, P. (2013). *Indirect procedures: A musician's guide to the Alexander Technique* (2nd ed.). Oxford, UK: Oxford University Press.

During Stage 1 this book was reviewed by two teachers (ESP15 and ESP35), an Alexander Technique teacher (ESP23) and a GP (ESP31) who already owned the book. During Stage 2 the book was reviewed by six teachers (ESP1, ESP2, ESP3, ESP6, ESP16, and ESP18) a neuroscientist/anatomist (ESP19) and a physiotherapist (ESP28) who had not previously read the book.

First impressions: Some teachers suggested that it “looked a little heavy going” (ESP2), “The front cover was a bit non-descript and the title would not have lured me to look at the book” (ESP16) and “I’m puzzled by the title” (ESP1). Others were more positive commenting that “the cover is appealing and appropriate” (ESP3) and “the size of the book is useful...easy to carry around or shelve along with music” (ESP18). There were a few positive reactions to the content – e.g. “the text was broken up into manageable chunks” (ESP2) and “the introduction was very engaging – a good prose narrative rather than a dry academic preface” (ESP18) – but ESP3 suggested that “the language looks quite ‘academic’ and ESP6 reported it has a “tendency towards repetitiveness... this is an insufficiently rigorous reference tool”. The neuroscientist/anatomist (ESP19) reported that he “had hoped for a clear outline of the Alexander method”. The physiotherapist (ESP28) commented that “This is not a guide...very few pictures, not easy to consult when required”; however, he reported that the “principles of mind and body being intertwined is useful”. Three participants suggested that the book is anecdotal rather than scientific (ESP6, ESP28, ESP29).

Academic rigour, accessibility and practicality:

Each reviewer was asked to rate the book from 1-7 in terms of its academic rigour, accessibility and practicality for use by music teachers in instrumental/vocal lessons. The graph below shows the mean ratings from teachers and HCPs.



Participants had the option to write qualitative responses regarding their perception of the book in terms of academic rigour, accessibility and practicality: see below for a summary.

Academic rigour: The most negative response came from ESP19 who suggested that the book is “hagiographic, blindly following Alexander’s teaching which even the author points out are obscure and hard to interpret...reminiscent of a religion following an ambiguous text that can be used both to be prescriptive and permissive as the interpreter wishes!”. ESP28 suggested that while the basic principles about posture are still valid some of the mechanics of the spine are outdated. The GP commented that “AT teachers all differ and there appears to be no academic rigour” (ESP31). The AT teacher commented that the book is “mostly written from personal experience” (ESP23). One of the teachers suggested that it is “a bit woolly” and appears to be only from one person’s viewpoint but they did find it approachable (ESP1). ESP6 suggested that she is positive towards the AT but if she was not she would “not be encouraged by the absence of ‘controls’ or scientific research”. Two teachers commented that the AT is not necessarily scientific in the traditional sense (ESP16) and can therefore be difficult to reference (ESP18). ESP18 commented that the book does describe the historical background to Alexander and the technique, and references other sources clearly. ESP35 suggested that “academic rigour is not at the top of my priority list” as it can make books harder to read and another teacher felt that as the book is a second edition the content will be up-to-date (ESP2).

Accessibility: Participants had very different experiences regarding the accessibility of the book. ESP35 suggested that people who are not familiar with AT would probably not have heard of the book. One teacher felt that it is “perhaps a little dry for someone who has no prior knowledge of AT” (ESP2), another suggested that “the layout of this book makes it quite difficult to read...difficult to identify required information at a glance” (ESP3) and a third felt that “there is too much waffle, not enough practical explanation of how to use the technique and too much language that can be misinterpreted” (ESP6). The GP felt that the accessibility of the book would depend on whether AT is of interest to the teacher (ESP31). Similarly, ESP1 found the book easy to read but suggested that the reader needs to “already be in sympathy with what it’s about”. ESP19 suggested that “though easy to read, it is hard to understand” and compared reading it to “trying to catch the mist” in terms of interpreting the information. In contrast, two of the teachers were very positive suggesting that the book “attempts pretty successfully to aid the reader in understanding and applying many of the principles” (ESP16) and “is very light on jargon...any terms are clearly defined and explained” (ESP18). ESP18 reported that he uses some of the integrated quotations in lessons.

Practicality: Participants suggested that this type of resource should be “used in conjunction with lessons” (ESP35), that hands-on teaching is ideal (ESP16), practical experiences comes first (ESP3), and that “whereas some of the resources can have immediate practicality, many more would benefit from a series of practise” (ESP18). ESP1 felt that despite the “woolly cosiness” of the book it has a lot of potential; she particularly enjoyed the example of a cellist whose multiple problems all apparently arose from bad neck positioning. Another teacher commented that they believe that AT is “a great way to prevent injury or pain especially in a professional playing career” (ESP2). The GP suggested that there are other useful texts and that AT is only one approach to freedom in playing and singing and the neuroscientist/anatomist (ESP19) commented as follows:

The Alexander technique is well known and widely used by musicians. It appears to offer benefits when taught practically and certainly focuses their attention on posture so this book is a disappointment in not presenting clear principles. It is unfortunate that the AT has not undergone significant validation though some

peripheral aspects such as its effect on stress have received some attention. This means that the book has no solid foundation. It is quite repetitive (which may suggest limited ideas).

Comments about the associated website: Six participants did not look at the accompanying website. The three who did gave mixed reviews with one teacher commenting that “he sounds like a fascinating person with much to offer. Shame he is not local” (ESP16). In contrast ESP19 suggested that it is a bit “new agey” with lots of amusing anecdote rather than information or critical assessment of AT and ESP3 reported that “there is a suggestion of ‘religious’ experience on a higher plane” which put her off the site and negatively influenced her opinion of the book as it contrasted with her own, practically-based engagement with AT.

Would you buy this book?

At the time of the study this book was available from the publisher for £27.95: at this price five participants would buy it (ESP3, ESP16, ESP18, ESP23 and ESP35), ESP1 bought a copy for £20 and six participants would not buy it (ESP2, ESP6, ESP15, ESP19, ESP28 and ESP31).

Would you recommend this book to an instrumental/vocal teacher?

Four teachers would recommend it because they would “like all teachers to have an awareness of the technique to apply in their lessons” (ESP2), found the book “a great illuminating introduction to Alexander” (ESP16), and because the book is a good “all round reference for the AT for musicians, as well as being very readable” (ESP18). ESP35 would recommend the AT and this book is “good backup for those already having lessons”. The AT teacher would recommend it because “there are few books that explain the processes involved in music-making so eloquently” (ESP23). Two teachers might recommend the book; ESP1 wanted to read more and compare it to other books and ESP3 felt that “it is difficult to grasp the usefulness of AT without experiencing it” so they would be more likely to recommend practical engagement with AT. The physiotherapist suggested that some elements on posture control, sensory perception, awareness and stage fright would be useful to musicians (ESP28). Two teachers (ESP6 and ESP15) would not recommend the book and ESP6 explained that the “stated benefits are not supported by scientific/medical research” and the book uses overly complex language with repetition of ideas. She also commented that it is “a bit too ‘mystical’ to be taken seriously by some” (ESP6). ESP19 commented that “given how widely AT is practised, I would really like to read a clear, objective and analytical account of the AT, which includes a critical evaluation of its methods and effectiveness”. The GP would not recommend the book because although he believes the AT approach is “worthy of consideration” it also requires the additional expense of an AT teacher (ESP31).

Appendix O: Event information survey

This survey is OPTIONAL. It aims to identify elements of this event that you perceived as positive and negative so as to improve potential future events. The questions focus on your experiences today rather than the effect of the training on your beliefs and teaching practice. I should be grateful if you would provide your personal identification code so I can link your responses to those of the other surveys you complete but you do not have to do so.

Personal Identification

Please write your personal identification code in the space provided below so that your responses to the survey questions can be linked to your responses on other surveys. This code consists of your initials, the first initial of your mother's maiden name, your birth month and birth year (see example below).

Example: Joe Bloggs, mother's maiden name 'Smith', born in November 1978: **JB S 11 1978**.

Personal identification code: _____

1. How did you hear about this event? You may choose more than one answer; please tick all that apply.
 - ☐ Through participation in one or more of Naomi's research studies
 - ☐ As part of Naomi's professional network
 - ☐ From the RNCM research or teaching communities
 - ☐ Via an organisation. Please specify: _____
 - ☐ Via social media. Please specify: _____
 - ☐ Other. Please specify: _____
2. Why did you choose to attend this event?

3. How much did you pay to attend this event? £ _____
4. Did you feel that this was a reasonable amount to pay for attendance at this event? No Yes
5. This event was organised on a not-for-profit basis as part of my research so it was possible to reduce the cost to delegates by accessing funding support; however, in the future, this may not be possible. It would be useful to know how much you would be willing to pay to attend this type of event, so please circle the maximum amount that you would have paid to attend this event (i.e. a one-day conference event lasting for a minimum of 6 hours with sessions hosted by expert speakers, catering included).
£10 £20 £30 £40 £50 £60 £70 £80 £90 £100 Other ____
6. Please use the space provided below to write feedback (positive or negative) about the event venue (specifically: the RNCM in general, the Carole Nash Recital Room, Studios 6 and 7) and how this venue affected your experience:

7. Was it made clear to you prior to the event that research would be taking place during the event? No Yes Other _____
8. Did the inclusion of research elements at this event affect your experience in any way (positively or negatively)? Please use the space provided below to outline your reactions to the research elements:

9. Did you find it useful to have information about health-related products and resources from event sponsors?
 No Yes Other _____

10. Will you be following up on any of the products or resources offered at the event?

No Yes

If no, please indicate why not, even if it is just that the products were not relevant to you.

If yes, please specify which product(s) or resource(s) you will be following up.

11. Did you buy any of the books on offer at the event? No (Go to a.) Yes (Go to b.)

a. If you did not buy any of the books please indicate why you did not buy any of them using the options below or the 'Other' box. You may choose more than one answer.

- | | |
|--|---|
| <input type="checkbox"/> Not interested in learning from books | <input type="checkbox"/> Not relevant to my profession or instrument |
| <input type="checkbox"/> I already own them | <input type="checkbox"/> Didn't contain relevant or practical information |
| <input type="checkbox"/> Too technical | <input type="checkbox"/> Other |
| <input type="checkbox"/> Not technical enough | |
| <input type="checkbox"/> Too expensive | |
| <input type="checkbox"/> Not at an appropriate level | |
-

b. If you did buy one or more of the books on offer at the event please indicate which one(s) you bought and why you chose the book(s) that you bought.

12. Would you attend this type of event again in the future? (Please circle) No Yes

a. Please use the space provided below to suggest why you would or would not attend this type of event again in future. Were there some elements that were more enjoyable than others? Were there some elements that may put you off attending a similar event in future?

b. What would be the best way to contact you to let you know about future events of this type?

Appendix P: Pre-event survey

I am asking you to complete this pre-event survey to assess the effectiveness of the type of training delivered at this event. This is not designed as an assessment of your existing knowledge; I am interested in whether this style of training (i.e. a one-off conference with seminar and workshop sessions) is useful, engaging and has practical applications for music teaching. During the week after the event I will ask you to answer these questions again as part of a feedback survey, and I will also ask you to complete a further survey in six months. Please be as honest as possible with your answers and feedback.

Personal identification

Please write your personal identification code in the space provided below so that your responses to the survey questions can be linked to your responses on other surveys. This code consists of your initials, the first initial of your mother's maiden name, your birth month and birth year (see example below).

Example: Joe Bloggs, mother's maiden name 'Smith', born in November 1978: **JB S 11 1978**.

Personal identification code: _____

Existing awareness or knowledge of health-related topics for musicians

To what extent do you feel you are aware and knowledgeable about the following topics? Please indicate your answer by ticking the appropriate box from 1 (not at all aware of this) to 7 (very knowledgeable about this).

Topics relating to health and well-being for musicians	1	2	3	4	5	6	7	n/a
Healthy practice & performance habits								
Healthy lifestyle habits								
How to pace activities to avoid harm								
Human anatomy in relation to playing an instrument/singing								
Names of performance-related musculoskeletal disorders (PRMDs)								
Symptoms of PRMDs								
Treatment of PRMDs								
Prevention of PRMDs								
Names of vocal problems								
Symptoms of vocal problems								
Treatment of vocal problems								
Prevention of vocal problems								
Definition of music performance anxiety (MPA)								
Symptoms of MPA								
Treatment of MPA								
Prevention of MPA								
When to seek help for a performance-related problem								
Where to seek help for a performance-related problem								
Definition of burnout								
Symptoms of burnout								
Treatment of burnout								
Prevention of burnout								
Definition of noise-induced hearing loss (NIHL)								
Symptoms of NIHL								
Treatment of NIHL								
Prevention of NIHL								

Appendix Q: Post-event survey 1

1. Introduction

Answers marked with a * are required.

Thank you for attending the event 'Promoting Health and Well-Being in Music Lessons' at the Royal Northern College of Music on Sunday 19th January 2014. That event was organised and hosted by Naomi Norton, a PhD student at the RNCM who is supervised by Professor Jane Ginsborg and Dr Alinka Greasley.

You will have already completed a pre-event survey and may have already completed a market research feedback survey as these were distributed in paper form at the event. This survey is different to those surveys as it has been designed to explore how effective this type of event is for disseminating information about health education to musicians and building a community of interested individuals and organisations. Completion of this survey is likely to take at least 10 minutes, possibly up to 20 minutes depending on how long your answers are to open-ended questions.

Please respond honestly to the questions; the data that you provide will be kept confidential and will be used anonymously as part of my research. It may also be used to inform the organisation of future events. In addition to completing this survey, I will contact you in approximately six months' time to invite you to complete a follow-up survey which will investigate the extent to which attendance at the training event has affected you or your teaching.

If you have any questions or feedback that you would like to provide separate to this study please contact me at [insert email address]. If you did not attend the training event specified above please do not complete this survey. If you are interested in attending future events please email me using the contact details provided above.

1. Did you attend the training event entitled 'Promoting Health and Well-Being in Music Lessons', which was held at the Royal Northern College of Music on Sunday 19th January? *

☐ Yes

☐ No, please do not continue to complete this survey. If you are interested in this research or future events please contact the researcher at [insert email address].

2. Do you consent to the information that you provide being used anonymously as part of this research? *

☐ Yes

3. Have you participated in any of the researcher's previous studies (excluding the interview study)?

	No	Yes
Pilot study: health education resources for musicians (2013)		
Health education for musicians: instrumental and vocal music teachers' perspectives (2013)		
Evaluation of health education resources (Stage 1)		
Evaluation of health education resources (Stage 2)		

4. Are you participating in the researcher's interview study, i.e. did you attend an interview with the researcher prior to attendance at the event? *

☐ No ☐ Yes

5. What was your role at this event? *

☐ Delegate

☐ Speaker

☐ Sponsor

☐ Volunteer Helper

☐ Other (Please Specify)

2. Participant profile

This section includes questions about your age, sex, and experiences with music (performing, teaching and/or medical). This information will be used to sort participant responses and analyse the resulting data, but will not be linked to data in such a way that you would be identifiable in any subsequent report or publication.

1. Please write your personal identification code in the space provided below so that your responses to the survey questions can be linked to your responses on other surveys.

This code consists of your initials, the first initial of your mother's maiden name, your birth month and birth year (see example below).

e.g. Joe Bloggs, mother's maiden name 'Smith', born in November 1978: JB S 11 1978 *

2. What is your sex? *

☐ Male ☐ Female ☐ Prefer not to disclose ☐ Other (Please Specify)

3. How old are you? (in years) *

4. Please use the text box provided below to write a short description of your professional profile; please specify what your primary occupation is, and whether you have any other occupations or hobbies relating to music or performing arts medicine.

For example;

Person 1) I teach solo voice full time.

Person 2) I teach violin, viola and piano and perform professionally as part of a string quartet from time to time.

Person 3) I am a qualified doctor (Consultant Rheumatologist); I have been involved in performing arts medicine for 10 years. I am also an amateur flautist.

Person 4) I am a qualified physiotherapist and I also teach the flute.

Person 5) I am a qualified Alexander Technique teacher. I also teach the trumpet and perform professionally.

Person 6) I am a professional freelance orchestral clarinet player and I teach private lessons on a regular basis.

Person 7) I am a full-time music student, and I also teach violin to five private pupils.

NOTE: These examples have been fabricated and do not relate to real people.*

5. If you are a musician, please specify which family your primary playing instrument/voice belongs to. This may be an instrument that you play professionally or as an amateur.

NOTE: This refers to the instrument that you play most frequently at the moment therefore you can only choose one answer. *

- ☐ I am not a musician
- ☐ Bowed Strings
- ☐ Plucked Strings
- ☐ Woodwind
- ☐ Brass
- ☐ Percussion
- ☐ Voice
- ☐ Keyboard Instruments
- ☐ Other (Please Specify)

6. If you are not a music teacher, please indicate below what your involvement with health education and/or music entails, how long you have been interested and/or involved with health education and/or music, and why you have become involved with this field.

7. If you are a music teacher, please specify which family your primary teaching instrument/voice belongs to.

NOTE: This refers to the instrument that you teach most frequently at the moment therefore you can only choose one answer. *

- ☐ I am not a music teacher
- ☐ Bowed Strings
- ☐ Plucked Strings
- ☐ Woodwind
- ☐ Brass
- ☐ Percussion
- ☐ Voice
- ☐ Keyboard Instruments
- ☐ Other (Please Specify)

8. If you are a music teacher, how long have you been teaching? *

- ☐ I am not a music teacher
- ☐ Less than a year
- ☐ 1-2 years
- ☐ 3-4 years
- ☐ 5-10 years

- ☐ 11-20 years
- ☐ 21-30 years
- ☐ 31-40 years
- ☐ More than 40 years
- ☐ Other (Please Specify)

9. If you are a music teacher, please indicate whether or not you currently teach the following age groups.

If you are not a music teacher please skip this question.

	No	Yes
Nursery age (4 years or under)		
Primary School age (between 5 and 10 years old)		
Secondary School age (between 11 and 16 years old)		
Sixth Form/College age (17 or 18 years old)		
Young Adult (19-25 years old)		
Adult (26 years or older)		

3. Session Feedback

This section includes questions about your experiences during the sessions on offer at the event. The data collected during this session will be very useful in terms of investigating what type of session is useful, interesting and appropriate. Please be entirely honest in your responses; this will be used anonymously as part of Naomi's research and no individual responses will be identifiable.

1. Please indicate which of the following event sessions you attended during the course of the day: *

	No, I did not attend this session	Yes, I did attend this session
Welcome (Naomi Norton)		
Health support for musicians (Deborah Charnock)		
Psycho-Physical Re-Education (Alison Loram)		
String Specialist (Christine Harrison)		
Performance-related problems (Drusilla Redman)		
Performance Anxiety (Carol Chapman)		
Vocal Specialist (Ian MacDonald)		
Performance Coaching (Karen O'Connor)		
Wind and Brass Specialist (Andrew Roberts)		
Debrief (Naomi Norton)		
Discussion group with Naomi Norton		
Discussion group with Alinka Greasley		
Discussion group in CNRR		

2. Which element of the training day did you find the most useful?

PLEASE NOTE: You will be given the opportunity to expand upon this answer using a free form text box in the next question. *

- ☐ Networking with delegates
- ☐ Talking with sponsors
- ☐ Information from sponsors (i.e. leaflets)
- ☐ Information included in the delegate pack
- ☐ Talking informally with speakers
- ☐ The discussion group
- ☐ The event presentations
- ☐ Preliminary results from the book evaluation study
- ☐ The 'library' reference table
- ☐ Other (Please Specify)

3. Please use the text box provided below to explain your choice in the previous question; what was it about that element of the event that made it particularly useful or applicable to you? *

4. Were any of the elements included at the event less useful or relevant to you than the others?

Elements of the event included: Presentations, discussion groups, networking opportunities, sponsor information, delegate pack, summary of book evaluation study, and 'library' reference table. *

5. If you have any other more general feedback (positive or negative) about the event presentations please use the box provided below to transmit this feedback to Naomi. This information will not be passed directly back to speakers, although anonymised summaries of the feedback may be provided.

If you don't have any other feedback about the event sessions please write 'No other feedback' in the box provided below. *

6. To what extent do you feel that you are aware and knowledgeable about the following topics? Please indicate your answer by selecting the appropriate box from 1 (not at all aware of this topic) to 7 (very knowledgeable about this topic).

PLEASE NOTE: The topics listed below are the same as the topics that you were asked to rate your awareness/knowledge of in the pre-event survey. The aim of this repetition is not to judge how much you know or have learned, but rather to investigate whether the training day has had any effect on your awareness and knowledge of a range of health education topics. You will be given an opportunity to expand on your answers in the following question.

Please only select 'n/a' if the topic does not relate at all to your musical or teaching activities.

ACRONYM DEFINITIONS:

PRMD: Performance-related musculoskeletal disorder, MPA: Music performance anxiety

PRP: Performance-related problem. NIHL: Noise-induced hearing loss *

Topics relating to health and well-being for musicians	1	2	3	4	5	6	7	n/a
Healthy practice & performance habits								
Healthy lifestyle habits								
How to pace activities to avoid harm								
Human anatomy in relation to playing an instrument/singing								
Names of performance-related musculoskeletal disorders (PRMDs)								
Symptoms of PRMDs								
Treatment of PRMDs								
Prevention of PRMDs								
Names of vocal problems								
Symptoms of vocal problems								
Treatment of vocal problems								
Prevention of vocal problems								
Definition of music performance anxiety (MPA)								
Symptoms of MPA								
Treatment of MPA								
Prevention of MPA								
When to seek help for a performance-related problem								
Where to seek help for a performance-related problem								
Definition of burnout								
Symptoms of burnout								
Treatment of burnout								
Prevention of burnout								
Definition of noise-induced hearing loss (NIHL)								
Symptoms of NIHL								
Treatment of NIHL								
Prevention of NIHL								

7. In the previous question you were asked to rate to what extent you are aware/knowledgeable about a range of topics relating to musicians' health. This is the second time that you have been asked to rate your awareness of these topics as you were previously asked to do so in the pre-event survey.

Please use the text box provided below to write your thoughts regarding potential differences in your awareness and/or knowledge of the topics mentioned in the previous question, or any others that are relevant.

If there has been no change in your awareness/knowledge of any of these topics, or you are unable to comment on what may have influenced a change please write 'No comment'. *

8. If you were aware of the topics discussed during the training event prior to attendance, please could you write a few sentences in response to the following questions:

- Where did you gain this prior knowledge from?
- Did you find that the information that you received at the training event was a valuable supplement to your prior knowledge?
- Did anything discussed at the training event contrast or clash with your prior knowledge?

If you have any other comments about how your experience at the training day compared to your previous experience or knowledge of health education or performance-related problems please use the box below to discuss this.

9. Due to various constraints it was not possible to include a session on all relevant topics at this event. Were there any sessions that you particularly felt were missing, or that you would like to see included at future events? *

10. Parallel sessions were made available at this event in order to cover a wider range of topics in a short period of time.

At future events, which of the following options would you prefer?

PLEASE NOTE: 'Single sessions' refers to having one session at a time, as opposed to 'parallel sessions' which refers to having more than one session running concurrently. The sessions would be between 45 and 60 minutes long in both cases. *

- ☐ Single sessions over the course of one day from 10 - 4pm
- ☐ Single sessions over the course of one day from 10 - 6pm
- ☐ Single sessions over the course of two days
- ☐ Parallel sessions over the course of one day from 10 - 4pm
- ☐ Parallel sessions over the course of two days from 10 - 6pm
- ☐ Parallel sessions over the course of two days
- ☐ Other (Please Specify)

4. Impact of the event

1. To what extent do you feel that you learned something at the event?

1 = not at all, 7 = very much so *

- ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

2. To what extent did the event provide information that was practical and applicable to the context of instrumental/vocal music lessons?

1 = not at all, 7 = very much so *

- ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

3. Did you feel that the style of training employed at the event (i.e., predominantly lecture-based learning) was effective in conveying information about the topics addressed during the course of the day? *

4. Did you find the information provided in the delegate pack useful? Please use the space provided below to indicate which elements of the delegate were the most (or least) useful and interesting. *

5. If you took part in a discussion group please use the space provided below to write a few sentences about your experiences as part of that discussion group. You could include answers to the following questions in your response, although please feel free to write about any aspect of the experience.

- Did you find the experience interesting, useful and/or engaging?
- Did you feel that your input was valued?
- Did you find it helpful to speak to (other) musicians and teachers?

- Did you find it helpful to speak to (other) health care professionals?
- Did you find it helpful to speak to (other) event presenters?
- Has participation in the discussion group affected you in any way?

6. To what extent has attendance at this event affected you in terms of your opinions and beliefs regarding the inclusion of health education in music lessons?

1 = not at all, 7 = very much so.

PLEASE NOTE: The next question gives you the opportunity to expand upon your response to this question. *

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

7. The previous question asked you to rate to what extent you feel that the event has influenced your opinions and beliefs regarding health education in music lessons.

If you have any further thoughts that are related to this question please use the text box provided below for your comments.

8. To what extent do you believe that attendance at this event will have an impact upon your teaching and/or musical practice?

1 = not at all, 7 = very much so

PLEASE NOTE: The next question gives you the opportunity to expand upon your response to this question. *

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

9. The previous question asked you to rate to what extent you feel that the event will have an impact upon your teaching and/or musical practice.

If you have any further thoughts that are related to this question please use the text box provided below for your comments. For example, if you believe that attendance at this event will influence your teaching and/or musical practice, in what ways might it do so?

Alternatively, if you do not believe that your teaching and/or musical practice will be influenced by attendance at this training day, is it because you are already employing strategies that were suggested or is it that you do not agree with what was taught?

5. Thank You

Thank you for taking the time to complete this feedback survey. The data that you have provided will be invaluable for both my PhD and informing future event organisers about the most effective way of disseminating information about health education to music teachers in the UK. I will be analysing the results of this data over the course of the next few months. In six months I will email to invite you to complete a follow-up feedback survey aimed at investigating to what extent your attendance at the event has influenced your musical and/or teaching practice.

If you have any questions about the research or would like to withdraw your participation at any point please email me at **[insert email address]** with your personal identification code. Alternatively, if you would like to contact my supervisory team please email Professor Jane Ginsborg at **[insert email address]**. All of the data that you have provided will be used anonymously and you will not be identifiable in any resulting reports or publications.

Appendix R: Post-event survey 2

1. Introduction

Answers marked with a * are required.

Thank you for attending the event 'Promoting Health and Well-Being in Music Lessons' at the Royal Northern College of Music on Sunday 19th January 2014. That event was organised and hosted by Naomi Norton, a PhD student at the RNCM who is supervised by Professor Jane Ginsborg and Dr Alinka Greasley.

You may have already completed a pre-event survey, market research feedback survey and post-event survey. The aim of this survey is to explore how effective January's event was in terms of disseminating information about health education to musicians and building a community of interested individuals and organisations. The results of this survey will be compared with your answers from the pre-event and first post-event survey to investigate whether attendance at the event in January has influenced you at all over the last 6 months. Completion of this survey is likely to take 10-15 minutes depending on how long your answers are to open-ended questions.

Please respond honestly to the questions; the data that you provide will be kept confidential and will be used anonymously as part of my research. It may also be used to inform the organisation of future events. If you have any questions or feedback please contact me at **[insert email address]**.

If you did not attend the training event specified above please do not complete this survey. If you are interested in attending future events please email me using the contact details provided above.

1. Did you attend the training event entitled 'Promoting Health and Well-Being in Music Lessons', which was held at the Royal Northern College of Music on Sunday 19th January? *

☐ Yes

2. Do you consent to the information that you provide being used anonymously as part of this research? *

☐ Yes

3. Have you participated in any of the researcher's previous studies (excluding the interview study)? *

	No	Yes
Pilot study: health education resources for musicians (2013)		
Health education for musicians: instrumental and vocal music teachers' perspectives (2013)		
Evaluation of health education resources (Stage 1)		
Evaluation of health education resources (Stage 2)		
Promoting Health and Well-being in Music Lessons: Post-Event Survey 1		

4. Have you participated in the researcher's interview study, i.e. were you interviewed by the researcher either before or after the event in January? *

☐ No

☐ Yes

5. What was your role at the event in January? *

☐ Delegate

- ☐ Speaker
- ☐ Sponsor
- ☐ Volunteer Helper
- ☐ Other (Please Specify)

2. Participant profile

This section includes questions about your age, sex, and experiences with music (performing, teaching and/or medical). This information will be used to sort participant responses and analyse the resulting data, but will not be linked to data in such a way that you would be identifiable in any subsequent report or publication.

1. Please write your personal identification code in the space provided below so that your responses to the survey questions can be linked to your responses on other surveys.

This code consists of your initials, the first initial of your mother's maiden name, your birth month and birth year (see example below).

E.g. Joe Bloggs, mother's maiden name 'Smith', born in November 1978: JB S 11 1978 *

2. What is your sex? *

- ☐ Male ☐ Female ☐ Prefer not to disclose ☐ Other (Please Specify)

3. How old are you? (in years) *

4. If you are a music teacher, please indicate whether or not you currently teach the following age groups.

If you are not a music teacher please skip this question.

	No	Yes
Nursery age (4 years or under)		
Primary School age (5-10 years old)		
Secondary School age (11-16 years old)		
Sixth Form/College age (17 or 18 years old)		
Young Adult (19-25 years old)		
Adult (26 years or older)		

5. Has your professional or personal situation changed at all in the last six months? e.g. have you moved to a new job? Have you started teaching a different age group or started teaching in a different environment?

PLEASE NOTE: This question is designed to explore whether your professional or personal situation has changed in a way that may affect your responses to this survey in comparison to your responses to the previous survey. If you would prefer not to answer this question please write 'No comment'. *

3. Impact of the event

This section of the survey aims to explore the extent to which attendance at the event in January has affected you personally and/or professionally. Please answer honestly; your responses to these questions will contribute to our understanding of how best to disseminate information about musicians' well-being and health.

1. To what extent do you feel that you are aware and knowledgeable about the following topics now? Please indicate your answer by selecting the appropriate box from 1 (not at all aware of this topic) to 7 (very knowledgeable about this topic).

PLEASE NOTE: The topics listed below are the same as the topics that you were asked to rate your awareness/knowledge of in the pre-event survey and first post-event survey. The aim of this repetition is not to judge how much you know or have learned, but rather to investigate whether the training day has had any effect on your awareness and knowledge of a range of health education topics. You will be given an opportunity to expand on your answers in the following question.

Please only select 'n/a' if the topic does not relate at all to your musical or teaching activities.

ACRONYM DEFINITIONS:

PRMD: Performance-related musculoskeletal disorder, MPA: Music performance anxiety

PRP: Performance-related problem, NIHL: Noise-induced hearing loss *

Topics relating to health and well-being for musicians	1	2	3	4	5	6	7	n/a
Healthy practice & performance habits								
Healthy lifestyle habits								
How to pace activities to avoid harm								
Human anatomy in relation to playing an instrument/singing								
Names of performance-related musculoskeletal disorders (PRMDs)								
Symptoms of PRMDs								
Treatment of PRMDs								
Prevention of PRMDs								
Names of vocal problems								
Symptoms of vocal problems								
Treatment of vocal problems								
Prevention of vocal problems								
Definition of music performance anxiety (MPA)								
Symptoms of MPA								
Treatment of MPA								
Prevention of MPA								
When to seek help for a performance-related problem								
Where to seek help for a performance-related problem								
Definition of burnout								
Symptoms of burnout								
Treatment of burnout								
Prevention of burnout								
Definition of noise-induced hearing loss (NIHL)								
Symptoms of NIHL								
Treatment of NIHL								
Prevention of NIHL								

2. In the previous question you were asked to rate to what extent you are aware/knowledgeable about a range of topics relating to musicians' health. This is the third time that you have been asked to rate your awareness of these topics as you were previously asked to do so in the pre-event survey and first post-event survey.

Please use the text box provided below to write your thoughts regarding potential differences in your awareness and/or knowledge of the topics mentioned in the previous question, or any others that are relevant.

If there has been no change in your awareness/knowledge of any of these topics, or you are unable to comment on what may have influenced a change please write 'No comment'. *

3. The event in January consisted of several elements. Which one has been the most useful since the event?

PLEASE NOTE: You will be given the opportunity to expand upon this answer using a free form text box in the next question. *

- ☐ Networking with delegates
- ☐ Information included in the delegate pack
- ☐ Information from sponsors (i.e. leaflets)
- ☐ Preliminary results from the book evaluation study
- ☐ Follow-up email after the event
- ☐ The 'library' reference table
- ☐ Talking with sponsors
- ☐ The discussion group
- ☐ Talking informally with speakers
- ☐ The event presentations
- ☐ Other (Please Specify)

4. Please explain why this was the most useful/applicable element using the text box provided below: *

5. To what extent do you feel that you learned something at the event?

1 = not at all, 7 = very much so *

- ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

6. To what extent did the event provide information that is practical and applicable to the context of instrumental/vocal music lessons?

1 = not at all, 7 = very much so *

- ☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

7. Have you found the information provided in the delegate pack and post-event reference email useful over the last six months? Please use the space provided below to indicate which elements of the delegate pack or follow-up email have been the most useful. *

8. To what extent has attendance at the event in January affected your opinions and beliefs regarding the inclusion of health education in music lessons?

1 = not at all, 7 = very much so.

PLEASE NOTE: The next question gives you the opportunity to expand upon your response to this question. *

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

9. The previous question asked you to rate to what extent you feel that the event has influenced your opinions and beliefs regarding health education in music lessons.

If you have any further thoughts that are related to this question please use the text box provided below for your comments.

10. To what extent has attendance at the event in January influenced your activities over the last six months?

For example, have you used information provided at the event in your professional activities? Have you remained in contact with anyone that you met at the event? Have you utilised any of the products or services mentioned at the event?

1 = not at all, 7 = very much so

PLEASE NOTE: The next question gives you the opportunity to expand upon your response to this question. Professional activities may relate to music or music medicine. *

☐1 ☐2 ☐3 ☐4 ☐5 ☐6 ☐7

11. The previous question asked you to rate to what extent attendance at the event has influenced your activities over the last six months.

If you have any further thoughts that are related to this question please use the text box provided below for your comments.

For example, if you believe that attendance at this event has influenced your activities, how has it done so?

Alternatively, if you do not believe that attendance at the event has influenced your activities, why do you think this is the case?

If you would prefer not to answer this question please write 'No comment'. *

12. Have you engaged with any resources or training about musicians' health and well-being over the course of the last six months?

If you have, please note where and when you accessed this information/training and why you decided to attend/access the resource(s). Did you find the information/training useful? How did it compare to the event in January?

If you haven't, please write 'Not applicable'. *

13. Please use the text box provided to write any further comments about the training day in January, your experiences over the last six months (either in relation to the event or more general health and well-being), or suggestions for future events and resources.

4. Thank You

Thank you for taking the time to complete this survey. The data that you have provided will be invaluable for both my PhD and informing future event organisers about the most effective way of disseminating information about health education to music teachers in the UK.

If you have any questions about my research or would like to withdraw your participation at any point please email me at **[insert email address]** with your personal identification code. Alternatively, if you would like to contact my supervisory team please email Professor Jane Ginsborg at **[insert email address]**.

All of the data that you have provided will be used anonymously and you will not be identifiable in any resulting reports or publications.

Appendix S: CPD event delegate information sheet

Delegate Information Sheet

Event: Promoting Health and Well-being in Music Lessons

Date: Sunday 19th January 2014

Venue: Royal Northern College of Music (RNCM), Oxford Road, Manchester

Rooms: Carole Nash Recital Room and Studios 6 and 7

Schedule: Registration will open at 9.30 and the conference is scheduled to finish at 16.00. I will also be conducting focus groups with a sample of delegates and speakers. Focus groups will take place from 16.15 – 17.00.

Sessions:

Subject	Speaker
Health support for musicians	Deborah Charnock (BAPAM)
Performance-related problems	Drusilla Redman
Performance anxiety	Carol Chapman
Performance coaching	Karen O'Connor
Alexander Technique	Alison Loram
String specialist	Christine Harrison
Vocal specialist	Ian MacDonald
Wind and brass specialist	Andrew Roberts
Focus group sessions	Volunteer delegates and speakers

Research at the event:

I am organising this conference/training day as part of my PhD research at the RNCM. I am therefore going to be recording all sessions (visual and aural recordings) and distributing feedback surveys to delegates in order to investigate your opinions regarding this type of training and the impact of the event upon your beliefs and practices. Feedback surveys will be made available online immediately after the event with a follow-up survey planned for approximately 6 months after the event. This research is not intended as a critical evaluation of delegates' interaction during the event, or delegates' knowledge and skills; I am focusing on your views on training, key themes relating to health education and the extent to which the training provided affects delegates' views, beliefs and practices relating to promoting health and well-being in music lessons.

As this event is being organised as part of my PhD studies it is being run 'not-for-profit' meaning that, although registration fees are being charged to cover basic catering costs and speaker fees, this fee is being kept to an absolute minimum. In the event that a profit is made this will be donated to the British Association for Performing Arts Medicine (BAPAM) to support their provision of vital services for performing artists. In return all delegates will be required to sign a consent form during registration for the event indicating that they are happy for the sessions to be recorded on the understanding that no individual will be identifiable in reports or publications. Following the event, conference session recordings may be made available to RNCM students and staff via the College intranet in order to contribute to the knowledge available throughout this musical community. Question and answer or discussion sessions following formal presentations will be excluded from any uploaded recordings. If you are not willing to participate in this research and sign the consent form supplied at registration on the day (and attached to this information

sheet) then unfortunately you will be unable to attend the conference; registration fees will not be refunded at this point.

Attendance at this event may have both immediate and long-term benefits both for your own health and that of your pupils as you will be provided with information regarding how to promote health and well-being as a musician and teacher. However, the researcher takes no responsibility for the decisions that you make as a result of attendance at this event; speakers, resources and information has been supplied in good faith and with the best of intentions. However, music medicine is a continually advancing field with a range of opinions and practices therefore it is not possible to fully endorse particular viewpoints or guarantee that the information provided is correct. Participation in the research elements of this event (i.e. recordings, surveys and focus groups) may help you to understand and make use of the information that is supplied at the event and will aid the formation and maintenance of a community of musicians and health care professionals that is committed to healthy practice.

This study has been granted ethical approval by the RNCM Research Ethics Committee. You will be debriefed about the research at the end of the event and during this session you will have the opportunity to ask questions about the research or your participation in this study. Data collected at this event will be analysed by the researcher and disseminated to musicians, teachers, health care professionals and other individuals and organisations involved in the provision of health education and support for musicians. Dissemination will take place via a range of methods including publication in relevant and appropriate publications and presentation at appropriate conferences and events. All information which is collected about you during the course of the research will be kept strictly confidential. Any information about you that is disseminated will have your name and address removed so that you cannot be identified.

In addition to conducting research throughout the course of the event itself I am also going to be conducting focus groups with a smaller sample of participants drawn from amongst delegates and speakers. These discussion groups will focus on the role of the teacher in health education for musicians including discussion of professional boundaries, expectations, and communication. If you are able to stay for an additional hour after the event and would like to participate in a focus group please let me know via email. I am also going to be conducting an interview study with a sample of about 15 teacher delegates; this will involve taking part in a 90 minute interview before the training day, attendance at the training day, and another interview approximately six months after the event. If you would be willing to take part in the interview study please let me know via email.

Summary:

If you have any questions or concerns about any of the information provided here please do not hesitate to contact me at **[insert email address]**. Alternatively, if you would like to speak to my primary supervisor, please contact Professor Jane Ginsborg at **[insert email address]**. Thank you for your support and interest in this event, I hope that you are still happy to attend what promises to be a fascinating day with a burgeoning community of individuals and organisations that are interested in supporting the health of musicians. If you would like to invite colleagues and friends to attend this event please ask them to contact **[insert email address]** for more details, to reserve their place, and to receive a copy of this information sheet and consent form.

Best wishes, Naomi Norton
PhD candidate, Royal Northern College of Music

Appendix T: CPD event consent forms

Participant Consent Form

Title of Project: *Promoting Health and Well-being in Music Lessons* (one day training event to be held at the Royal Northern College of Music on Sunday 19th January 2014).

Name of Researcher: Naomi Norton

Name of Supervisors: Professor Jane Ginsborg and Dr Alinka Greasley

Please initial box

1. I confirm that I have read and understand the information sheet provided for the project in which I have been asked to take part and have had the opportunity to ask questions.

2. I understand that my participation in this study and attendance at this event is voluntary and that I am free to withdraw at any time without giving any reason. However, as details were made available prior to the event regarding the conduction of research at this event, I understand that if I choose to withdraw from this study following payment of registration fees this money will not be refunded.

3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses. I understand that all personal data about me will be kept confidential.

4. I understand that the investigator(s) must adhere to the BPS Code of Human Research Ethics.

5. I agree to take part in the above research project.

Print name of participant

Date

Signature of participant

Print name of researcher

Date

Signature of researcher

Copies

One copy for the participant, and one copy for the supervisor or researcher.

Speaker Consent Form

Name _____

Confirmation of fees, payment method and cancellation agreement:

Please confirm the fee that you have agreed upon for presenting at this event:

Presenter fee (max. £100): £_____ Travel contribution (max. £30): _____

Are you happy to invoice the RNCM for this fee following the event? (Please circle)

Yes No

If you are not willing to provide an invoice after the event please let me know. Please make sure to keep all travel receipts as these will be necessary for claiming back travel expenses (this will be managed by the RNCM Research team who will provide the necessary form to complete and submit with your invoice).

Recording of sessions:

I hereby provide consent for the session that I present at this event to be recorded both visually and aurally for use as part of this research project:

Signed: _____ Date: _____

Are you happy for the recording of your session to be also uploaded to the RNCM College Intranet in order to make it accessible to RNCM students and staff? (Please circle)

Yes No

Anonymity:

I understand that it is my decision as to whether I wish to remain anonymous or be identified in subsequent reports and publications and that if I choose to remain anonymous no data will be included in reports or publications that identifies me. I have indicated my preference below:

EITHER

I hereby waive my right to anonymity and provide consent for my name to be included in future reports and publications relating to this event. I would like to be known by the following name and title:

Name and title (printed): _____

Signed: _____ Date: _____

OR

I do not provide consent for my name to be included in future reports and publications relating to this event.

Signed: _____ Date: _____

Participation in focus group study:

Will you be able to stay for up to an hour after the conference has finished to take part in focus group discussions focusing on the role of the instrumental/vocal teacher in health education for musicians?

(Please circle) Yes No

Appendix U: CPD event programme

Time	Venue	Session	Speaker	Brief description
9.30	Registration (refreshments on arrival)			
10.00	CNRR	Welcome	Naomi Norton	A short welcome session from Naomi that will include information about her research and why she has organised this training day. She will also be outlining some preliminary results from her research studies to date.
10.20	CNRR	BAPAM	Deborah Charnock	Introduction to the services and support that BAPAM offer and how teachers and musicians can access these services.
10.50	Refreshment break			
11.00	Studio 6	Psycho-physical re-education	Alison Loram	Introduction to cognitive-motor system-level causes of performance-related problems affecting musicians and how the Alexander Technique can help. To include results from Alison's recent investigation into violin/viola playing.
	Studio 7	String session	Christine Harrison	Instrument specific session about string instrumentalists.
12.00	Break (move between sessions)			
12.05	CNRR	How to get the best out of your body	Drusilla Redman	Introduce various performance-related problems that affect musicians, what the risk factors are for these conditions and the importance of prevention.
12.50	CNRR	Prize draw	Naomi Norton	Prize draw and introduction of sponsor representatives
13.00	Lunch break			
13.30	Studio 6	Performance anxiety	Carol Chapman	Symptoms, causes and treatment of performance anxiety.
	Studio 7	Voice session	Ian MacDonald	Instrument specific session regarding vocalists.
14.30	Break (move between sessions)			
14.35	Studio 6	Performance coaching	Karen O'Connor	Introduction to performance coaching and how it can support and enhance preparation and performance; focus on what teachers can do to help their students.
	Studio 7	Wind & brass session	Andrew Roberts	Instrument specific session about wind and brass instrumentalists.
15.35	Refreshment break			
15.50	CNRR	Debrief	Naomi Norton	Thanks, feedback, thoughts on the day, and ideas for the future.
16.15	Studios 6 and 7	Discussion groups		Optional discussion groups

Appendix V: Focus group discussion topics

Introduction (approx. 5 minutes)

1. Ensure that participants are willing to be recorded via audio and/or video.
2. Request that participants take it in turn to speak in order to aid discussion and transcription.
3. Explain the purpose of the session:
 - a. Opportunity to reflect on the event and discuss any questions that have been raised.
 - b. Opportunity to discuss health and health education with a mixed group of individuals.
 - c. Opportunity to discuss professional boundaries within health promotion and education with a variety of professionals.
4. 30 second introduction from each member of the group (Name, profession, reason(s) for attending)

Introduction of the multi-disciplinary team (approx. 5 minutes)

‘Performing arts medicine specialists are health care professionals who have chosen to specialise in the treatment and management of performance-related problems amongst performing artists (e.g. musicians, dancers, actors etc.). Many specialists and researchers in the performing arts medicine field are suggesting that instrumental and vocal music teachers should act as active members of a multi-disciplinary team that exists with the aim of decreasing the prevalence, severity and impact of performance-related problems amongst musicians.’

Possible questions to consider:

1. Do you believe that this type of arrangement would work in practise?
2. Is this type of arrangement already happening anywhere? If it is, are teachers an active member of the team?
3. Who should be included in this type of team? (Consider the following...Who is involved in educating musicians? Caring for musicians? Supporting musicians? Treating musicians? Managing a musicians’ surrounding?)

Discussion of the practicalities of a team approach (approx. 10 minutes)

‘The members of a team should have an understanding of colleagues’ job descriptions and potential boundaries between team members’ roles in order for the team to work effectively and to avoid internal discord.’

1. What would each of the team members’ roles include (i.e. What would their ‘job description’ be?)
2. Which aspect of the musician’s education and development would each member be concerned with?
3. Would there be overlap between roles?
4. How would different members of the team interact with each other and the musician?
5. How regular would contact be between members of the team and between each member of the team and the musician?

Feedback on the event and general discussion (approx. 10 minutes)

1. Which element of today have you enjoyed the most? (e.g. talks, networking, discussion groups, sponsors etc.)
2. Which element of today have you found the most useful? (as above)

3. Do you have any suggestions for future events?
4. Did the event meet with expectations (i.e. have your reason(s) for attending been validated)?
5. Have you found participation in this discussion group useful and interesting?
6. Do you have any general suggestions or comments relating to health promotion and health education for musicians (past, present and potential)?

Debrief (approx. 5 minutes)

Opportunity for participants to ask questions regarding the event and larger research project; in the groups that are not being led by Naomi, participants may prefer to email Naomi after the event with any questions.

Appendix W: Event study respondents

List of abbreviations: Event respondents (ER), Female (F), Male (M), Not applicable (N/A)

R#	Age	Sex	Professional profile	Teaching instrument	Experience	Event info	Pre-event	Post-event 1	Post-event 2
ER1	F	60	Private singing teacher, member of AOTOS, taken CTABRSM, professional performer until recently. Qualified NLP Master Practitioner.	Voice	31-40 years	Yes	No	Yes	No
ER2	F	42	Violin/viola teacher and orchestral performer	Bowed strings	11-20 years	Yes	Yes	Yes	No
ER3	M	68	Qualified doctor (GP) and amateur violinist, pianist, singer	N/A	N/A	No	Yes	Yes	No
ER4	F	43	Voice and piano teacher	Voice	11-20 years	Yes	No	Yes	Yes
ER5	F	43	Flute and piano teacher and classroom teacher	Keyboard	21-30 years	Yes	Yes	Yes	Yes
ER7	M	59	Involved in instrumental/vocal teacher education. Role includes management of a range of open access pre-tertiary projects.	Teacher Education	>40 years	Yes	Yes	Yes	Yes
ER8	F	36	Private singing teacher and performer. Involved in singing therapy.	Voice	5-10 years	No	No	Yes	No
ER9	F	47	Piano teacher and research fellow in university music department	Keyboard	21-30 years	Yes	Yes	Yes	Yes
ER10	F	44	Peripatetic woodwind and curriculum teacher with QTS. Amateur flute, recorder and clarinet player. Also teaches private pupils and was formerly a nurse.	Woodwind	21-30 years	Yes	Yes	Yes	Yes
ER11	F	56	Singing teacher and choir director, involved in community education.	Voice	21-30 years	Yes	Yes	Yes	Yes
ER12	F	35	Teaches violin and piano and performs freelance. Sings with a freelance choir.	Bowed strings	11-20 years	Yes	Yes	Yes	Yes
ER13	F	46	Studying violin and planning to teach privately in the near future.	N/A	N/A	Yes	Yes	Yes	Yes
ER14	F	27	Qualified Physiotherapist, dancer and ballet teacher.	N/A	N/A	No	Yes	Yes	Yes
ER15	M	70	Private piano and theory teacher, accompanist, church organist and amateur chamber music performer.	Keyboard	11-20 years	Yes	Yes	Yes	Yes
ER16	F	50	Woodwind and piano teacher. Performs with various ensembles.	Woodwind	5-10 years	Yes	No	Yes	Yes
ER17	F	29	Full-time music psychology student who teaches classical guitar.	Plucked strings	11-20 years	Yes	Yes	Yes	Yes
ER18	F	66	Qualified piano teacher, accompanist, duettist, and theory teacher.	Keyboard	>40 years	No	Yes	Yes	Yes
ER19	F	54	Jazz guitarist and teacher. Performs regularly and teaches jazz improvisation.	Plucked strings	31-40 years	Yes	No	Yes	No
ER20	M	24	Professional classical guitarist. Teaches classical guitar and performs solo recitals.	Plucked strings	5-10 years	No	Yes	Yes	No
ER21	F	61	Feldenkrais practitioner with experience as an opera director.	N/A	N/A	No	No	Yes	No
ER22	M	36	Qualified Alexander Technique teacher. Semi-professional performer and co-ordinator of a tutoring website.	N/A	N/A	Yes	Yes	Yes	No
ER23	F	62	Piano, theory, and aural teacher, accompanist and musicology scholar.	Keyboard	>40 years	Yes	Yes	Yes	Yes

ER24	F	23	Teaches flute and piano and performs regularly on the flute.	Woodwind	1-2 years	Yes	Yes	Yes	Yes
ER25	F	47	Civil servant and amateur violinist.	N/A	N/A	Yes	No	Yes	Yes
ER27	F	37	Teaches clarinet and performs in an orchestra.	Woodwind	11-20 years	No	No	Yes	No
ER28	M	23	Musician, performer, postgraduate research student and music teacher.	Brass	3-4 years	Yes	Yes	Yes	Yes
ER31	F	67	Qualified Pilates teacher. Qualified Sports and Remedial Massage therapist. Gives 'cello recitals and has been a professional performer and teacher.	Bowed strings	21-30 years	No	Yes	Yes	Yes
ER32	F	25	Junior doctor and amateur violinist and pianist.	N/A	N/A	Yes	Yes	Yes	Yes
ER33	F	53	Qualified Alexander Technique teacher and Performance Coach, amateur vocalist and pianist.	N/A	N/A	No	No	Yes	No
ER34	F	66	Private and peripatetic singing teacher.	Voice	21-30 years	Yes	Yes	Yes	Yes
ER35	M	67	Singing and Alexander Technique teacher. Professional singer and recording artist.	Voice	>40 years	No	Yes	Yes	Yes
ER36	M	20	Full time student; teaches instrumental lessons as part of degree and privately.	Woodwind	1-2 years	No	Yes	Yes	Yes
ER37	F	37	Instrumental teacher, lecturer, and PhD performance student.	Brass	11-20 years	No	Yes	Yes	Yes
ER38	F	66	Professional accompanist and choral tutor. Also involved in concerts and musicals.	Keyboard	>40 years	No	No	Yes	No
ER39	M	66	N/A	N/A	N/A	Yes	Yes	Yes	Yes
ER40	F	59	Teaches solo voice, conducts a community choir and sang professionally.	Voice	21-30 years	Yes	Yes	Yes	No
ER41	F	47	Professional singer and singing teacher, director of a women's choir, qualified hypnotherapist and NLP practitioner.	Voice	11-20 years	Yes	Yes	Yes	No
ER42	F	23	Qualified physiotherapist with an interest in Performing Arts Medicine.	N/A	N/A	Yes	Yes	Yes	Yes
ER44	M	51	Qualified Alexander Technique teacher. Formerly a professional violinist.	N/A	N/A	No	Yes	Yes	No
ER45	F	48	Violin, voice and class music teacher. Kodaly trained. Professional singer.	Bowed strings	21-30 years	No	Yes	Yes	No
ER47	F	24	Final year music student, primarily a singer but also plays violin and saxophone.	N/A	N/A	No	No	Yes	No
ER48	M	69	No information.			No	No	No	Yes
ER49	F	67	No information.			No	No	No	Yes
ER50	M	65	No information.			Yes	Yes	No	Yes
ER51	/	/	No information.			No	Yes	No	No
ER52	/	/	No information.			No	Yes	No	No
ER53	/	/	No information.			No	Yes	No	No
ER54	/	/	No information.			No	Yes	No	No
ER55	/	/	No information.			Yes	Yes	No	No
ER56	/	/	No information.			No	Yes	No	No

Appendix X: Key quotations from American Music Teacher

Author and date (chronological order)	p.	Key quotation
Wristen (2014)	16	The goal of the series is to bring to the forefront some thematic issues surrounding the health and wellness of musicians for consideration by the studio music teacher. We play a very powerful role in the formative musical lives of our students. We are trusted advisors, and very often, we may be the first person the student looks to in case a problem arises. It is important for us to remember that we are not trained healthcare providers and should not attempt to function in this capacity.
Manchester (2014)	32	How does one actually implement all of these recommendations in the midst of a hectic schedule? First, it's essential to have a good support team. Working with a knowledgeable teacher or having a trusted colleague who can give wise advice and feedback when little problems come up can help avoid bigger problems in the future. If you are having any significant problems, such as discomfort that has lasted longer than a week or so, it may be time to consult a healthcare professional who has expertise in performing arts medicine.
Horvath (2015)	27	In the studio and classroom it is essential we teach our students healthy physical and mental approaches to provide a solid base for playing with comfort, freedom and ease of expression.
Amlani & Chesky (2014-15)	21	Musicians rely on their hearing sensitivity to create and monitor their daily musical activities. If hearing sensitivity were to decline, a musician's ability to perform may become constrained...Thus, the musician's objective is to lessen the amount of overstimulation placed on the auditory system across the lifespan. Reaching this objective requires reducing the daily amount of time exposed to high-intensity sounds.
Lister-Sink (2015)	18	Piano teachers spend a great deal of money, time and effort on finding the right methods for teaching theory, reading, repertory, style and musicianship. What we do not have collectively are sound methods for teaching the foundational technical skills.
Cornett (2015)	28	Unlike top athletic coaches...most music teachers were never trained to address the psychological factors of performance...We often teach intuitively, suggesting performance preparation techniques, which may have worked for us in the past. But music performance can invite a host of serious challenges, including stress, anxiety, self-doubt, destructive self-criticism and depression...While mental health professionals are trained to address these challenges, most music teachers are not.
Nagel (2015)	33	My plea to music, mental health and medical professionals is to appreciate the interdisciplinary collaboration and understanding of complex problems that are presented to us in our consulting rooms and teaching studios...Only when music teachers, and mental health and medical care providers fully collaborate as teams by refusing to dichotomize and compartmentalize, refusing to rely on reductionist diagnoses, and claim ownership for curing pain – physical and psychological – can we begin to be truly effective healers and support optimum wellness.
McAllister (2015)	22	As music teachers, we need to know both our limits and our responsibilities. We need to know when to refer our students to

		another professional...However, we are often the only adult in our students' lives who spends time with them one-on-one every week. What an awesome responsibility and an incredible opportunity we have.
Dawson (2015)	24 & 25	Music teachers are in a unique position to take a proactive approach to the health and well-being of their students and themselves. They form a first line of defence against development and worsening of difficulties associated with making music. However, they will be more effective by knowing some of the principles and skills for dealing with student problems...Education remains the key to achieving the goals of safe, healthy and pain-free playing or singing.
Ackermann (2015)	22	Musicians and health professionals must work together to find practicable and effective sustainable solutions. Constructive collaborative efforts to promote healthy musical practice, as well as the essential growth of research to further refine health management strategies is necessary.

Appendix Y: Recommended changes to the survey study

Q#	Topic	Recommendations
4	Sex	Include the following options: Male, female, other (please specify), prefer not to disclose
7	Professional identity	Include the following options: Instrumental/vocal teacher, musician who performs and teaches, teacher-who-performs, performer-who-teaches, Other (please specify). In addition: Ask respondents to specify whether they primarily identify as a performing or teaching musician.
8	Genre	Restrict to respondents' performing and/or teaching activities rather than all musical activities. Retain genre categories but be prepared to collapse them into fewer categories on analysis.
9, 10 & 11	Teaching instrument(s)	Ask respondents to state which instrument(s) they teach to make it possible to categorise according to instrument 'family' or instrument characteristics. In addition, ask respondents to specify which instrument they teach most often.
13	Pupil age group	Retain ability to choose multiple pupil age groups but ask respondents to specify which group they teach most often. Collapse categories into children aged 10 and under, those aged 11-18, young adults (19-25) and adults (26+).
/	Teaching environment	Ask respondents to indicate where their lessons take place: e.g. in a private studio (own or pupils' home), at a music centre, in a school, in a university music department or conservatoire, other (please specify).
15	Qualifications	If qualifications are more than 10 years old ask respondents to be explicit about what they are and where they were awarded (some respondents to this study used acronyms or obscure references that had to be traced via the internet or asking older musicians whether they had heard of them). Ask respondents to specify the subject and level of their diploma Ask a separate question about CPD sessions that includes information about organisations that provide CPD, the topic of the course, and how much it cost. It was useful to classify qualifications according to the RQF but most teachers are unlikely to be aware of this framework therefore it is best applied after respondents have indicated their qualifications.
17	Physical symptoms	Ask a separate question that relates explicitly to vocal problems.
17, 22, & 26	Experience of PRPs	Use of questions adapted from existing definitions appeared to work well; future research should continue to use these definitions to make it possible to draw comparisons between research. Studies that include questions about various aspects of health should be conducted to allow exploration of the co-morbidity of health problems. Separate research projects focusing on different aspects of teachers' health in detail should adapt or use standardised measures that have been tested with other musical populations. In particular, research investigating MPA could use the battery of tests applied by Kenny & Ackermann (2015) and research investigating hearing could use standardised clinical measures and sound-measuring devices.
20, 25 & 27	Advice and treatment for PRPs	Ask respondents to indicate whether they have ever received advice about physical symptoms, vocal disabilities, MPA and/or hearing problems regardless of whether they have experienced problems. Separate question regarding who they have received health-related

		<p>advice from using the following multiple-choice options: Doctor, physiotherapist, osteopath, body awareness specialist, counsellor, musician (not a teacher), instrumental/vocal teacher, other (please specify).</p> <p>Separate questions regarding whether respondents who have experienced a PRP have sought advice/treatment specifically relating to that PRP: ask them to state who the advice/treatment was from, what it entailed, and whether it was successful.</p>
26	Hearing problems	Ask respondents to indicate whether they have a hearing problem that affects their ability to teach or play/sing. Subsequently ask them to describe the problem and the suspected/diagnosed cause of the problem.
28 & 29	Responsibility for pupils' health and well-being	<p>Retain Likert Scale question to introduce this topic (Q28)</p> <p>Split further explanation response (Q29) into several sub-questions:</p> <p>Position of responsibility</p> <p>Ask respondents to indicate why they include health-promoting behaviours in their teaching (if they do).</p> <p>Ask respondents to indicate whether they have noticed a pupil having general or performance-related problems or whether pupils have confided in them. Ask what their response was, or would be, in this situation.</p> <p>Responsibility for general and/or performance-related health</p> <p>Ask respondents to indicate whether they consider teachers responsible for providing advice about categories identified in this research:</p> <p>General health: home/school life, overall well-being and fitness</p> <p>Biological factors: including posture, technique, tension/relaxation etc.</p> <p>Psychological factors: including confidence, anxiety, learning environment</p> <p>Other: Hearing, eyesight, vocal problems etc.</p> <p>Include an open-ended text box to allow respondents to elaborate.</p> <p>Shared responsibility for pupils' health and well-being</p> <p>Ask respondents to indicate who they believe is responsible for preventing pupils from developing PRPs using multiple-choice options: Instrumental/vocal teacher, pupil, pupil's family, pupil's educational institution, healthcare professionals, other (please specify).</p> <p>Ask respondents to indicate who they believe is responsible for caring for the health of pupils with PRPs using above options.</p> <p>Include an open-ended text box to allow respondents to elaborate.</p> <p>Factors affecting extent of responsibility</p> <p>This would be best explored with case studies, interviews, or focus groups.</p>
30 & 31	Adapting the instrument or environment	<p>Make all Likert Scales in the study to the same values.</p> <p>Give multiple-choice examples drawn from this research: e.g. posture, instrument choice and set-up, room set-up, practice habits, hearing etc.</p> <p>Ask respondents to detail what they do in response to these categories.</p>
32	Discussing PRPs with pupils	<p>Divide question into sub-questions relating to following categories: physical health, psychological health, vocal health, performance preparation, and hearing. Include an option for respondents to indicate that they discuss other health-related topics. Ask respondents to indicate how often they discuss these topics (in how many lessons) and how long they spend discussing topics (number of minutes in lessons).</p> <p>Ask respondents to indicate whether they have used personal health experiences to inform the way in which they address PRPs with pupils,</p>

		and if so what form this took.
33 & 34	Referral pathways	Ask respondents to state whether they have referred a pupil to the following places: doctor, BAPAM, physiotherapist, osteopath, body awareness specialist, counsellor, another musician (not a teacher), another instrumental/vocal teacher, an organisation (please specify). Use case study examples to explore respondents referral behaviours in relation to different types of PRPs, pupil groups, teaching environments etc. This could also be explored using interviews and inter-professional focus groups.
35	Organisations	Ask respondents to indicate which organisations they are currently a member of or interact with on a regular basis (i.e. receive newsletters, attend events, use their services etc.). Separate question: Ask respondents to indicate whether they have ever received health-related information from those organisations.
37 & 38	Sources of information	Ask respondents to state whether they have gained health-related knowledge from the following sources: Experience: As a learner, teacher, and/or musician with a PRP Other musicians: From colleagues/friends/family and/or teacher(s) Reading: Books, articles, internet (specify which) Training: degree, CPD, pedagogical qualification, other (please specify) Organisations (specify which) Other (please specify) Further to this multiple-choice question ask them what the advice from their source(s) related to (open-ended response)
/	Access to health-related information for pupils	Ask respondents to indicate what kind of resources/information they make available to their pupils in terms of direct advice, referral to other specialists, performance opportunities, provision of books or other reading material, recommendations of internet sites etc.
44	Learning method	Ask respondents to rank their top three preferred methods of learning about health promotion using the categories shown in this research.
45	Timing of learning	Ask respondents to indicate when they think it would be MOST effective to include health-related information in the education of performers AND teachers (two separate questions).
47	Topics of interest	Ask respondents to indicate which topics they would be most interested in learning about from a list: e.g. supporting pupils' general health and well-being, biological/psychological performance-related health, hearing, vocal problems, inclusion of health promotion in lessons, how/when to seek help

Supplementary material: Copy of Norton et al. (2015a; 2015b)

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Instrumental and Vocal Music Teachers' Views on a Multi-Disciplinary Team Approach to Health Promotion for Musicians

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ABSTRACT

Performing Arts Medicine (PAM) has developed considerably since the 1980s; however, initiatives for preventing performance-related problems (PRPs) are still rare. Instrumental and vocal teachers have been identified as potential health promotion advocates who could work with representatives of a multi-disciplinary team (MDT) to support students' well-being. There is a lack of research investigating teachers' health-related experiences, beliefs and practices; the present study investigates these in relation to teachers' current and potential activities as health promotion advocates and members of MDTs. Thirteen teachers (selected on the basis of their willingness to participate, location, instrument, genre, and teaching environment) took part in semi-structured interviews. Transcripts were analysed thematically. Preliminary analysis indicates that teachers feel at least partially responsible for their pupils' well-being and assume the role of health promoters even though they do not generally believe that their training prepared them to do so. Interviewees reported learning about health-related topics during the course of their musical education from a wide range of sources, including those nominated in the PAM literature as appropriate members of MDTs. Most interviewees were unfamiliar with the concept of an MDT before the researcher introduced it towards the end of the interview. They were all receptive to the concept and agreed that it is appropriate for teachers to be considered health promotion advocates although they raised potential difficulties associated with developing an MDT approach to health promotion for musicians. Results will be of interest to musicians, providers of teacher training, PAM specialists, music colleges and universities.

INTRODUCTION

Performing Arts Medicine (PAM) has been developing since the 1980s and our understanding of the aetiology, epidemiology and treatment of performance-related problems (PRPs) has advanced considerably. PRPs are common amongst musicians and can have a serious impact on their professional and personal lives. Treatment may return musicians to near or fully functional capacity, but PRPs can cause physical and psychological distress, loss of

income, and – in severe cases – cessation of musical activities. Most PRPs are preventable with appropriate education and support (Chan & Ackermann, 2014; Chesky, Devroop & Ford, 2002; Winspur & Warrington, 2010) and many researchers (e.g., Brugués, 2011; Butler, 2005; Potter, 2012) agree with Ralph Manchester that “a sixteenth note of prevention is worth a whole note of cure” (2006, p.1).

Da Costa and Vieira (2010) conclude from their review of risk factors for work-related musculoskeletal disorders that health promotion initiatives should call on the expertise of qualified professionals and the educated opinion of stakeholders in the target environment (see also Butler, 2005; Chan & Ackermann, 2014; Dehar, Casswell, & Duignan, 1993). Potter (2012) identifies two forms of prevention:

- 1) Primary prevention, i.e. avoiding the onset of preventable impairments that result from overuse, poor ergonomics or incorrect technique
- 2) Secondary prevention, which involves promoting a better understanding of performance impairments in order for them to be addressed earlier in their presentation.

In music education, stakeholders include carers, classroom teachers, schools, tertiary-level institutions, musicians and above all the instrumental and vocal teachers who so often provide the gateway through which people learn to make music. These teachers have influential relationships with students and are involved in aspects of music education that relate to primary and secondary prevention of PRPs. Early experiences establish habits that can help or hinder musicians throughout their careers; it is therefore not surprising that researchers have argued that health promotion should be included in musical education from the very first lessons (Blackie, Stone, & Tiernan, 1999; Chesky, Dawson, & Manchester, 2006; Rosset i Llobet, 2004; Spaulding, 1988). There have been many calls for instrumental and vocal teachers to be trained in health promotion (e.g. Barton & Feinberg, 2008; Brandfonbrener, 2002; Britsch, 2005; Chesky et al.,

2002; Guptill & Zaza, 2010; Hildebrandt & Nübling, 2004; Petty, 2012; Ranelli et al., 2011; Redmond & Tiernan, 2001); however, the opinions of teachers and other stakeholders are rarely sought or reported

Elite level athletes are surrounded by MDTs of experts that work together with a lead coach to support the athlete's performance (Taylor & McEwan, 2012). Although musicians have access to advice from a range of professionals – e.g. academic tutors, physiotherapists and doctors – these individuals rarely work as a team. Researchers have called for more interaction between stakeholders in musical environments to improve the quality and coherency of available information (Gaunt, 2011; Nagel, 2009; Williamon & Thompson, 2006). Palac (2008) recommends that health professionals should work with music teachers to ensure they base their teaching not only on musical but also psychological and biomechanical principles. Health professionals in the UK already diagnose and treat PRPs and are often involved with health promotion initiatives; however, they are unlikely to play a formative role in the development of musicians' beliefs, attitudes and behaviours. As the concept of health promotion gains momentum in musical communities instrumental and vocal teachers are regularly nominated as health promotion advocates. Research is needed to investigate teachers' perspectives on the appropriateness of this role and the practicalities of introducing an MDT approach into a musical environment. Accordingly, an interview study was undertaken with four main aims: to 1) explore teachers' demographic characteristics, identities, education and qualifications; 2) explore their personal experiences of PRPs and how they may affect their teaching; 3) investigate teachers' perceptions of health promotion and PRPs and current inclusion of health promotion in lessons; 4) introduce, if necessary, and consider an MDT approach to health promotion and the teacher's role in this approach. For reasons of space, this paper reports and discusses findings pertaining only to 4.

METHOD

Participants

Prior to the interview study an online survey was conducted. Respondents were recruited using a purposive, snowball sampling method via professional organisations, institutions, publications, professional contacts and social media. A total of 496 (30% male, 69% female; age range 18-90 years; mean age=46.24, SD=14.14) participated in the survey, which ended with an invitation to take part in further research. Those who accepted the invitation were contacted and 12 (8 female, 4 male, aged 21-70; mean age=47.77, SD=17.67; median age=54; see Table 1 for further

information) were selected on the basis of their availability, location, instrument, teaching environment, and level of experience. Ethical approval having been granted by the researcher's institutional Research Ethics Committee, participants gave their informed consent and were subsequently debriefed.

A. Materials and Procedure

The researcher constructed a semi-structured interview schedule based on published literature, insights from previous research (Norton, 2012) and professional knowledge. It was designed to explore participants' experiences and views *prior to* the introduction of concepts from PAM literature and was divided into four sections: Musician and Teacher, Musical Performance and PRPs, PRPs in Pupils, and Teachers as Health Promotion Advocates. Interviews took place at the researcher's institution and in participants' homes and lasted 35-130 minutes (mean=76.15, SD=22.90). Interviews were recorded using a portable Dictaphone and transcribed by the researcher. Having checked transcripts against the recording she invited participants to remove or alter information that identified them or that they did not wish to be included.

Reflexivity

The researcher is a postgraduate student and professional instrumental teacher in the North of England. She works with the British Association for Performing Arts Medicine (BAPAM) as the Manager of their Student Advocate Scheme. These roles, together with personal experience of PRPs, enhance her understanding of the interview topics, and she shared her experiences with participants when appropriate. The researcher anticipated that participants' personal health would be discussed during interviews and where appropriate listened sensitively, made participants aware that she is not medically qualified and gave details of resources that may be of interest.

D. Analysis

Thematic analysis was undertaken following the guidelines outlined by Braun and Clarke (2006). It was primarily researcher-driven as there was an existing coding frame (including identification of potential MDT members in the PAM literature, nomination of the teacher as a health promotion advocate, and questions about preparation for this role), and the researcher introduced the concept of the MDT approach to participants.

Table 1: Participants

Pseudonym	Interview length	Age (years)	Sex (M/F)	Primary Teaching Instrument Family	Teaching experience	Genre of musical activities	Self-reported professional identity
Henry	70 mins	70	M	Keyboard Instruments	11-20 years	Classical, Jazz, Early Music	Musician who performs and teaches
Mary	55 mins	68	F	Keyboard Instruments	31-40 years	Classical	Instrumental teacher
Felicity	86 mins	62	F	Keyboard Instruments	>40 years	Classical	Instrumental teacher
Harriet	75 mins	57	F	Keyboard Instruments	31-40 years	Classical, Jazz Contemporary	Instrumental teacher
Gemma	90 mins	55	F	Choral Voice	5-10 years	Classical, World Contemporary	Vocal teacher
Sophie	75 mins	54	F	Plucked Strings	31-40 years	Jazz	Performing musician who also teaches
Kate	75 mins	50	F	Percussion	21-30 years	Classical, Contemporary	Instrumental teacher
Amelia	56 mins	49	F	Woodwind	5-10 years	Classical	Performing musician who also teaches
George	75 mins	30	M	Plucked Strings	11-20 years	Jazz, Contemporary	Musician who performs and teaches
Scott	98 mins	23	M	Brass	3-4 years	Classical	Postgraduate researcher
Ben	35 mins	22	M	Bowed Strings	1-2 years	Classical	Performing musician who also teaches
Lauren	70 mins	21	F	Woodwind	1-2 years	Classical	Classroom music teacher

FINDINGS

To the researcher's knowledge this study is the first to focus on UK instrumental and vocal teachers' experiences and beliefs about health promotion. Given the lack of previous research, findings will be presented in three sections (personal experiences of health-related learning, beliefs about responsibility for pupils' health, and responses to the concept of an MDT approach to health promotion and the teacher's role within the team) and followed by a conclusion relating the findings to the literature outlined in the introduction.

E. Personal Experiences of Health-related Learning

Interviewees described learning formally and/or informally about health-related topics from a range of sources including individuals (e.g. their teachers, colleagues, doctors, and Alexander Technique teachers), organisations (e.g. their educational institutions, or professional bodies), and resources. In addition, four interviewees reported gaining knowledge and understanding through their personal experiences.

Other than Mary, all interviewees reported receiving health-related information from their

teachers; Scott, Sophie, Amelia, Harriet and George all specified particular instances of their teachers telling them how to protect their health and Gemma commented, "every singing teacher has their own favourite remedies for dealing with sore throats, coughs and colds." Four interviewees reported learning from students (sometimes their own children), for example: one of Amelia's students had soft palate problems and Harriet said that "having my children has broadened my attitude to how I teach." With the exception of Mary, who teaches in relative isolation, all interviewees recounted anecdotes about colleagues' PRPs, which added to their own understanding of PRPs and their potential impact. George and Henry's colleagues also shared recommendations for the management of PRPs. Interviewees' experiences of support and/or training provided by educational institutions and professional companies were mixed; examples of learning opportunities were provided by George, Amelia, Gemma and Lauren but Ben said he couldn't remember if health education was available at college as, if it was, he "probably didn't listen". Kate's music service offered support and training but in the two cases reported she believed that the outcome was unsatisfactory.

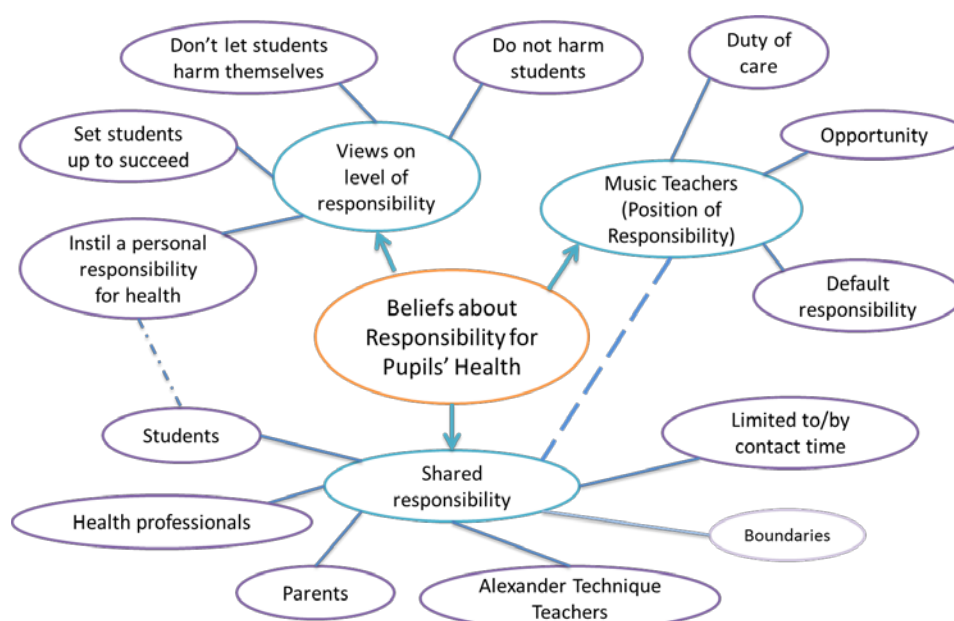
Amelia, Kate, Lauren and Henry reported consulting health professionals about PRPs, without complete success. George observed that “it’s a bit of a lottery whether you get a GP who will be sympathetic, and will believe that you’re injured.” He, Ben and Gemma have health professionals in their families and Amelia has a background in nursing; all four said they would seek advice from these sources. BAPAM is a national charity that provides specialised support for performing artists. Three interviewees did not know about BAPAM, five were aware of it but not in detail while Sophie, George, Felicity and Lauren had accessed their services and/or resources. Eight interviewees referred to the Alexander Technique. Henry, Gemma and George have received lessons and George believes he is now “a lot more aware of my body... and what it’s doing.” Sophie finds books about the technique useful and Harriet, having encountered it on a CPD course, reported that she now does “a tiny bit of Alexander Technique with the slouchers.” Lauren and Kate did not comment on the one-off sessions they had participated in but Scott described his first experience as having been delivered by a “completely disconnected woman [who] came in and said to a group of slightly hungover, slightly disinterested, first years in a class of 80 in a hall ‘lie on the floor for ten minutes.’” Kate sees an osteopath approximately every six months but otherwise interviewees reported consulting no other health professionals.

Interviewees have consulted a range of resources including books, internet and print articles, research reports, and continuing professional development (CPD) events.

go and sometimes the content is irrelevant or unhelpful. Most interviewees use the internet and read books, but Henry (70 years old) is “not terribly happy using the computer” and George (30 years old) believes he is “not very good at reading books.” Henry advocated considering topics “from many points of view” because, as Scott pointed out, “the more lenses you see something through the better it is understood.”

F. Beliefs about Responsibility for Pupils’ Health

Survey study respondents rated the extent to which they believe they are responsible for their pupils’ health from 1 (not at all) to 7 (wholly responsible). The mean response for the full sample ($N = 426$) was 4.63 ($SD = 1.40$) with a range of 1 to 7 and a median and mode of 5; when the 13 interview participants responses’ were extracted it was found that they ranged from 1 to 6 with a mean of 3.92 ($SD = 1.19$) and a median and mode of 4. Survey respondents had been invited to expand on their ratings by writing free text in the comment boxes provided. The data thus obtained were categorised as follows: Responsibility for Certain Aspects, Shared Responsibility, Position of Responsibility, Limited Responsibility and Miscellaneous. During their interviews participants spoke most about topics relating to Shared Responsibility and Position of Responsibility and offered suggestions regarding different levels of responsibility in terms of protecting pupils’ health (see Figure 1).



Most inte **Figure 1. Thematic map of interviewees’ beliefs about responsibility for pupils’ health.**

courses; acc
above all else is to go and have a day and you can
talk about it with the experts.” However, they
suggested that it can be difficult to find the time to

Interviewees identified teachers, parents, students and health professionals as those who share responsibility for music students' health. While some survey respondents mentioned professional boundaries, George was the only interview participant to comment that "there's nothing worse than someone who is not medically qualified giving medical advice". Some interviewees felt that teachers have a "duty of care" (Gemma and Kate) or an "ethical prerogative" (Scott) to protect pupils under their supervision. For example, George would let someone know if a pupil was upset and Harriet said that "if you see something that you know isn't quite right...you do something about it." Four interviewees believe that teachers are responsible by default because "your main point of contact is your teacher" (Lauren), "[pupils] don't get any other time with their instrument and someone else" (George) and, as Kate concluded "as a teacher you're responsible for putting that knowledge out there...otherwise where will they get it from?" However, Gemma and Kate believe that students are responsible for taking the advice provided:

...all of the best teachers in the world are not going to prevent somebody who wants to throw themselves at the cliff from throwing themselves at the cliff. But your responsibility as a teacher is to make sure that they know what they're doing.
(Gemma)

Scott, Sophie and Lauren raised the issue of limited contact time and suggested that teachers are responsible for pupils in lessons, but that "once they're out of your sight it's really difficult" (Sophie) and "you can't always be there when they're practising" (Lauren).

Interviewees offered suggestions regarding different levels of responsibility in terms of protecting pupils' health: i) not intentionally harming pupils, ii) not allowing pupils to harm themselves, iii) setting pupils up to succeed and iv) teaching pupils to take responsibility for their own health. Scott and Amelia believe that the adage 'do no harm' applies to pupils' psychological and physical health. Aside from harming a pupil, interviewees suggested that teachers should convey "good practice" (George) to ensure pupils "are not harming themselves" (Henry, also Mary) thereby preventing them developing health problems "40 years down the line" (Amelia, also Felicity). Sophie works for a large UK music organisation and stressed the importance of prevention initiatives because musculoskeletal damage "takes ages to mend" and with hearing damage "you don't get it back". Some interviewees believe that being a teacher is "all about setting your students to up succeed" (Lauren). This appears to be based on the belief that health and technique are "bound together to some degree" (Lauren) and therefore it is essential to "set [pupils] up with the right technique to help them through" (Scott). Amelia said that this needs to happen throughout the learning process and Felicity believes that her

ultimate goal is to "give them the tools so that they can do it without me". Sophie and Gemma also referred to the need for musicians to take responsibility for their own health: "preparation for any kind of performance health-wise is a responsibility that has got to be taken seriously" (Gemma). Finally, three interviewees commented that the appropriate level of intervention depends on pupils' age – "input is going to be different from a 7 year old to a 60 or 60 year old" (Henry) – and ambitions. Scott and Ben moderate their actions according to what stage a pupil is at and whether they are planning to become a musician. In comparison, Sophie believes that "it's not fair that you only get access to [Alexander Technique] if you do a music degree...the more information there is out there the better".

G. Interviewees' responses to the concept of an MDT approach to health promotion for musicians and the teacher's role within this team.

In the final interview section the researcher introduced participants to the field of PAM, the MDT approach recommended in PAM literature and the proposal that music teachers could be health promotion advocates; their familiarity with these concepts varied and the introduction was tailored accordingly. Interviewees considered who might be involved in an MDT, discussed the extent to which an MDT approach currently exists and commented on the practicality of supporting an MDT.

Various types of doctors, counsellors, Alexander Technique teachers, physiotherapists, massage therapists, psychologists, music organisations, teachers and students were nominated by interviewees' as members of musicians' MDTs. Two interviewees reported that they already have access to MDT representatives: Gemma commented that "they've never formed a team, but there are lots of people out there to whom I would go for advice" and Henry has personal experience with various professionals and would "certainly volunteer the names of these people" to pupils. Conversely, eight interviewees do not believe that a consistent MDT approach currently exists. Scott feels that access to support from an MDT is "a complete lottery based on the mentalities of the people you're studying with." Mary, Sophie, Amelia, and Harriet commented that it is difficult to know what is going on elsewhere: "there might be some enlightened place in the UK, I haven't heard of it...it's a lack of integrated, co-ordinated strategy about how to go about it" (Sophie). Felicity recounted an incident where a teacher had attempted to seek help for a student but had been blocked by their educational institution. Lauren felt it would be "fruitful...to have those discussions going on" and Harriet

believes that the MDT approach used in mental health care could work for musicians.

None of the interviewees disagreed with the suggestion that instrumental and vocal teachers are ideally placed to act as health promotion advocates. Most interviewees were, in fact, very supportive and commented that it was “entirely appropriate” (Amelia), “totally reasonable...it would probably have to work that way” (George). Harriet suggested that as “music is cross-curricular” then “why shouldn’t you be doing health education as well?” Likewise, Mary believes that teachers have “an ideal opportunity to teach all kinds of things beyond what appears to be their job”. Kate agreed but suggested that it is only reasonable if appropriate training is available. Gemma expressed the reservation that care must be taken not to “suffocate the beast”, i.e. introduce too many requirements so that teachers have “no time to do what it is people are wanting.” In Gemma’s experience, singing teachers are “very aware” of their students’ health because it is “inescapable”; compared to other instruments the voice is “more vulnerable to being knocked off its perch and losing pitch and tone”. With the exception of Gemma, interviewees were unsure whether UK teachers currently engage in health promoting-behaviours but the general feeling is that “it would completely depend on the tutor...it’s not institutionalized at all. It’s not the norm” (George).

Almost universally, interviewees said that their musical training had not prepared them for a health promotion role. Gemma and Lauren’s tertiary-level courses did not include formal health education. Amelia attended an institution that runs a pedagogy module (which she believes covered performance anxiety and physiological topics) but commented that “linking that to teaching is not always done overtly, so it depends on the individual and how ‘up’ they are on putting things together”. Felicity stated that none of the music teacher training courses address health education. Only Ben felt his training would provide him with the information he needs, or as he said: “I reckon I could deal with most things”. Ben’s closest counterparts in terms of age and experience believe that the training available does not adequately equip a teacher to act as an advocate (Lauren) and is “a complete lottery based on where you work and who you work with” (Scott). Gemma said she has had “access to good training” and Sophie commented that many teachers have been “taught very well”. However, Felicity suggested that if teachers did not learn about health-related topics during their time as learners then they cannot teach them; she also believes that many teachers do not know how to deal with their own PRPs and are therefore unable to help their pupils. Seven interviewees discussed the need for teachers to develop a “more formalized awareness” (Gemma) of health promotion. Amelia feels that

she is “more clued up than most” because of her background in nursing; when thinking about young teachers she said “there must be things on university courses, is there?” Mary commented that “it is to my pupils’ detriment that I’m a better teacher now” and suggested that young teachers should be “more aware of the possible problems”. Sophie believes that the lack of an integrated national policy has resulted in “pockets where there is absolutely nothing...and pockets where it is sort of ok”. Felicity suggested that teachers must be involved early on in their careers to contribute to the prevention of PRPs and “put the word out” to other musicians. Lauren would like to learn more about physical problems so that she can “help in a meaningful way” and would like to gain this knowledge through membership of an MDT. Reading a book or doing an e-training course is inadequate for Kate as she thinks teachers need practical experience and the opportunity to ask questions. Henry queried whether teachers would need to do “extra qualifications in a little bit of psychiatry...or the Alexander Technique” to appropriately aid their pupils. Felicity suggested that a CPD course of one-off days delivered over the course of a year by medics (“because I want to know that they really know what they’re talking about”) coupled with “a teacher who I can respect” would be ideal. Gemma warned against putting people off teaching, or undermining teachers’ confidence “because they didn’t have all of these things”.

Despite their positive – and sometimes wistful (“in my dreams” [Harriet]; “in an ideal world” [Kate]; “Ooo, that would be nice wouldn’t it!” [Felicity]) – reactions to the idea of introducing an MDT approach for musicians interviewees voiced concerns regarding practicalities such as “cost...time...availability” (Harriet), communication, dissemination of information, and who an MDT approach would be appropriate for. Scott referred to pupils ending up “between a rock and a hard place” if they received contrasting advice from MDT members. Amelia believed “there could be some merit in working together” but found it difficult to imagine how that would work in practice. Amelia questioned how you reach “the myriad of private teachers who are not affiliated to any kind of official bodies” and Felicity wondered whether teachers who are doing it for “pin money” would be motivated to engage with training. Sophie believes teachers are “doing great stuff” but because they are “scattered to the four winds” it is hard to get hold of them. Harriet suggested that using “cyber space” would be helpful. Two interviewees raised the issue that the MDT approach would cost money and that “there’s less money in music than there is in sport” (Ben); this led Kate to suggest that teachers are better placed to help younger students. Sophie offered practical advice on accessing funding to run a pilot study and

test whether the MDT approach is feasible and effective. When considering who the MDT approach would be most appropriate for interviewees generally believed that it would apply to “the ones who are serious about [music]” (Harriet):

I think [at] the low end of the pyramid...the benefits of musicking are great. The more concentrated you get, the more hazards there are, and the more careful you've got to become, the more specialised knowledge, and the more of a team of back-up that you're going to need....I think that if you're down here – teaching the bottom of the pyramid – you're dealing with common sense (Gemma).

Scott could imagine how the MDT approach might work in the “rarefied environment” of a conservatoire, but could not see it working in a “broader sense”. Henry believes that those who are aiming to be professional musicians should have access to an MDT as “the demands of creating a career in music are fairly horrendous” but if pupils are not aiming to be professional he suggested that “less is probably advisable”. However, Kate commented that the MDT approach might be practical if a teacher was working in a school with a lot of pupils and Sophie firmly believes that these opportunities should be available to all musicians.

CONCLUSION

The results reported here are based on a preliminary analysis of interview study data. It is clear that interviewees have experienced elements of an MDT approach to health promotion during their training, however informal. The individuals and resources they consult are included in the MDT advocated by PAM specialists. From their descriptions it appears that interviewees' most positive and influential interactions are with other relevant stakeholders rather than qualified professionals. The value of relevant stakeholders as information sources should not be underestimated or undermined. However, future research should investigate why musicians favour stakeholders over qualified professionals, and whether it is possible to redress this imbalance. The teachers in this study support the suggestion made in PAM literature that instrumental and vocal teachers are ideally placed to act as advocates and should be included in the MDT. Interviewees believe they are responsible for their pupils' health and are already engaging in health-promoting behaviours; from their accounts it is clear that they regard themselves as key stakeholders in their pupils' musical environments. Palac (2008) suggests that health professionals should provide the knowledge upon which teaching principles are based. Although based on a small sample, the results of this research suggest that UK teachers are not consistently gaining access to knowledge that is appropriate and up-to-date and

therefore do not feel confident that their teaching is founded upon sound principles. Interviewees are generally in favour of an MDT approach to health promotion, but raised concerns regarding the practicality of implementing this approach within musical environments. These concerns must be explored in more detail in order to develop health promotion initiatives that are suited to their target environment and which will be well received by teachers and other relevant stakeholders.

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Health and Wellness Education for Musicians: Investigating Music Teachers' Perspectives

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ABSTRACT

Background

Musicians are vulnerable to the development of performance-related problems (PRPs) such as noise-induced hearing loss (NIHL), music performance anxiety (MPA), and musculoskeletal disorders. Research suggests that PRPs are prevalent amongst a range of musical communities including young, pre-professional and professional musicians (Ginsborg, Spahn & Williamon, 2012; James, 2000; Kreutz, Ginsborg & Williamon, 2008; Leaver, Harris & Palmer, 2011; Ranelli, Straker & Smith, 2011; Williamon & Thompson, 2006). Researchers have begun to investigate the effect of PRPs on musicians' lives empirically, using mixed and qualitative methodologies. Results suggest that PRPs affect physical, emotional, social and financial aspects of musicians' lives; that disruption of the ability to make music can be devastating and career-threatening; and that PRPs interfere with musicians' enjoyment of playing, relationship with their instrument and artistic expression. (Guptill, 2011; Schoeb & Zosso, 2012).

Most PRPs are preventable provided appropriate education and support are available throughout a musician's training and career (Chan & Ackermann, 2014; Winspur & Warrington, 2010; Wynn Parry, 2003). Instrumental and vocal music teachers provide training and support and therefore may be ideally placed to act as health promotion advocates. Researchers have called for music education to include information about prevention of PRPs from the first lessons (Blackie et al., 1999; Chesky, Dawson & Manchester, 2006; Rosset i Llobet, 2004) and therefore for instrumental and vocal teachers to be trained in appropriate health promotion strategies (Barton & Feinberg, 2008; Guptill, 2012; Guptill & Zaza, 2010; Palac, 2008; Petty, 2012; Ranelli et al., 2011).

Despite these calls, research investigating teachers' experiences, beliefs and current practices regarding health and wellness for musicians is very limited. Only six papers have been published regarding music teachers' knowledge and

awareness of PRPs (Barrowcliffe, 1995; Brandfonbrener 1989/1990; McKechnie & Jacobs, 2011; Quarrier, 1995; Redmond & Tiernan, 2001; Rogers, 1999) all of which report studies undertaken in the USA using primarily survey methods with predominantly instrumental teacher respondents. The findings of these studies suggest that music teachers and students would benefit from, and would like to receive, structured health education. Hildebrandt and Nübling (2004) provided teachers with health education in order to assess the effect of such training on teaching practices; results indicated a positive influence and the investigators called for further research. A PhD research project in the UK (see Atkins, 2013) explored occupational health and wellbeing provision in the conservatoire sector using semi-structured interviews with a range of staff, including primary study teachers; participants expressed a desire for health education to be incorporated into everyday conservatoire life. To date, no research has explored UK music teachers' personal experiences with PRPs, beliefs and current practices regarding health promotion, or interest in this subject for their own – or their pupils' – benefit.

Aims

The present study aimed to: provide preliminary data regarding UK music teachers' experiences with PRPs; understand where, how and why teachers access information and health; and investigate teachers' current beliefs, practices and interest in this subject.

Method

A survey based on existing literature and a pilot study was designed using the online software 'eSurveysPro' and administered online via purposive and snowball sampling from August 2013 to February 2014. A mixture of 50 single choice and open-ended questions were presented in four sections: teacher profiling, performance-related problems, beliefs and practices relating to health, and interest in further education. Results were analysed using descriptive statistics and thematic analysis.

Results

Respondents were 502 teachers from a variety of musical genres and instrumental groups (female 69%, male 30%, age range 18-90, mean age = 46.24). Physical symptoms such as pain, weakness, lack of control, numbness and tingling had been experienced by 69% of the sample with 30% currently experiencing such symptoms. Respondents were asked whether they had experienced a "marked and persistent anxious apprehension relating to music performance": 55% had at some point and 28% were currently experiencing these symptoms. A small percentage of respondents (6%) had been diagnosed with NIHL and a further 19% had hearing difficulties but did not know what caused them.

Most participants reported feeling responsible for pupil well-being and shared their beliefs regarding why they feel responsible in an open-ended text box. Thematic analysis of their responses suggests that teachers believe that being a teacher is a position of responsibility, but that this responsibility is shared with others (including the student) and can relate to performance and/or general health. The level of responsibility can be limited by a variety of factors. Other responses related to the similarities of music and other performance disciplines, the importance of training for teachers and the positive effects of music on health. Respondents report already discussing PRPs with their pupils and spending time adjusting posture, technique, instrument size, positioning and adaptations, and environmental factors such as lighting and temperature. The primary source of respondents' knowledge of PRPs is personal experience. Seventy-four percent of respondents offer basic advice regarding how to manage PRPs but refer pupils to specialists (primarily doctors or physiotherapists but also body awareness technique teachers and other musicians) if symptoms persist. Most respondents said they would like to know more about health and wellness and would prefer to learn via the internet, books, and face-to-face lectures.

Conclusions

Instrumental and vocal teachers are ideally placed to act as health promotion advocates and to a large extent are already fulfilling this role because they feel at least partially responsible for their pupils' health and wellness. In order to protect the health of pupils and teachers it is imperative that further research is conducted to facilitate the development of resources that are accurate, practical and appropriate to the context. The design of such resources should include input from all relevant stakeholders and must respect the beliefs,

experiences and expectations of instrumental and vocal teachers.

Keywords

Music, health, well-being, teacher, education, advocate

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Health Promotion in Instrumental and Vocal Music Lessons:
The Teacher's Perspective

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