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Decentring the 'resilient teacher': exploring interactions between individuals and their social ecologies

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ABSTRACT

The teacher retention crisis has led to a strong discourse around the need for teachers to 'build their resilience', which places the responsibility for coping at the feet of the individual teacher. Contemporary research, however, supports a social-ecological approach, which takes account of environmental influences within the resilience process. This study draws upon five focus groups (28 teachers) to present evidence for complex interdependencies between risk and protective factors within the resilience process. The authors demonstrate the prevalence of indirect (mediation and moderation) effects operating primarily *between* rather than *within* ecological levels, characterised by contextual factors predominately influencing individual factors, rather than the other way round. These findings provide support for the notion of equifinality – the idea that there are multiple routes to resilience – and advocate a flexible approach to promoting teacher resilience, involving experimentation and collaboration across ecological levels.

Introduction

The 'teacher resilience' problem

There is currently a major crisis in relation to teacher recruitment and retention, both nationally and internationally (Avalos & Valenzuela, 2016; Department for Education, 2019).While one in five teachers plan to leave the profession within the next two years, a staggering 40% plan to leave within five years (National Education Union, 2019). Alongside issues of attrition, there are also widespread concerns about the health and wellbeing of teachers. Teacher stress levels have risen significantly over the past three years, with a third of teachers having experienced a mental health issue within the past academic year (Savill-Smith, 2019). Despite the government's commitment to reducing teacher workload (Department for Education, 2019) and to provide help for leaders to 'establish supportive school cultures' (Department for Education, 2019, p. 7), the well-being of education staff continues to be significantly lower than that of the general

population (Kidger et al., 2016; Savill-Smith, 2019). Worryingly, 12% of school leaders and teachers reported feeling suicidal within the last year and the number of calls to the Education Support Helpline have risen by nearly 30% since 2017 (Savill-Smith, 2019).

Recent studies have also highlighted the indirect effect that the demands of the profession can have on pupils. Unsurprisingly, lower levels of teacher wellbeing are associated with impaired work performance (Pillay, Goddard, & Wilss, 2005). The ability to cope with the demands of the teaching profession is 'a necessary condition for effectiveness', with satisfied and well teachers creating happier and more productive classrooms (Gu & Day, 2007, p. 1302). Clearly, the demands of the profession are presenting very significant health risks to teachers and are leading to diminished opportunities for the children in their care. Academics and professional bodies have called for a need to 'openly acknowledge the emotional work inherent in education' and 'to take meaningful action to look after the people who look after our children and young people' (Mc Breaty, 2019, p. 4).

Current responses to the problem and their limitations

In response to this crisis a strong discourse has emerged around the need to 'build teachers' resilience' (Mansfield, Beltman, Broadley, & Weatherby-Fell, 2016) The notion of teacher resilience is, however, both complex and contested (Johnson & Down, 2013; Price, Mansfield, & McConney, 2012). The key criticism aimed at the 'resilience movement' is that it places the responsibility for coping solely at the feet of the individual (Johnson & Down, 2013). In other words, if a teacher is struggling to cope with the demands of the profession, it is implied that this is because they are not sufficiently robust – the solution being that they develop their personal resources further (e.g. by improving time management and emotional regulation skills) to the point where they are able to 'bounce back' from such challenges. For this reason, critics have warned of the potentially pernicious nature of the term 'resilience', which places individual teachers in a position of deficit and blame (Johnson & Down, 2013).

Despite concerns over the limitations and potentially harmful effects of an individualised deficit approach to teacher resilience, a strong continuing discourse of hyper-individualisation remains embedded within policy and political rhetoric. This is particularly evident within the recently developed Early Career Framework for teachers, which is 'at the centre of' the government's Teacher Recruitment and Retention Strategy (Department for Education, 2019, p. 6). This framework, heralded by its authors as 'the most significant reform to teaching in a generation', attempts to address the retention crisis by providing funded professional development opportunities for new teachers over the first two years of their careers. While additional professional development opportunities for early career teachers are certainly welcome, the nature of the opportunities set out within the framework reflects a narrow conceptualisation of early career support underpinned by notions of performativity. The framework is designed around a number of competence-based standards with the premise that if only we could make teachers better at their jobs, they would be 'more resilient' and stay within the profession. While self-confidence and self-efficacy have been established as playing an important role in teacher resilience (Castro, Kelly, & Shih, 2010; Gu, 2018; Gu & Day, 2013; Mansfield, Beltman, Price, & McConney, 2012), they are but two factors within a much broader ecological landscape of influences which

affect a teacher's ability to cope within the profession e.g. support from management, workload and the presence of a high-stakes accountability framework (Beltman, Mansfield, & Price, 2011). Whilst approaches to enhance individual-level factors (such as self-confidence and self-efficacy) are likely to bring some benefit, in order to fully combat such narrow approaches to the complex issue of teacher resilience (and the related issue of retention), there is an urgent need for research that takes full account of all the factors that influence 'resilience', and the interaction between those factors.

Reclaiming resilience: decentring the individual

As discussed earlier, the notion of teacher resilience has been critiqued for its potential to position teachers in problematic ways and detract from the challenging conditions which teachers are expected to work in. On the other hand, others have argued that the notion of resilience can be used to support emancipatory action when framed as a complex ecological process (e.g. Hill & Hart, 2017). When an individual's context is taken into account, the responsibility to 'be more resilient' no longer resides solely within the individual, but is distributed across the social-ecological system as a whole (Johnson & Down, 2013). From this perspective, resilience is seen as a process of adaptation (rather than a trait): it is not innate or stable, and is influenced by a myriad of factors interacting and operating across multiple ecological levels (e.g. the individual teacher, the school, the wider policy context) (Ainsworth & Oldfield, 2019; Gu, 2018; Kangas-Dick & O'Shaughnessy, 2020; Ungar, Ghazinour, & Richter, 2013). When resilience is conceptualised as being distributed across the whole system, possibilities are opened up for interventions which shift from solely 'changing individuals to making social and physical ecologies facilitative' (Ungar, 2011, p. 6).

Conceptual and theoretical framework

The present study is therefore framed within contemporary elaborations of Bronfenbrenner's (2005) bio-ecological systems theory, which acknowledges the many influences on behaviour, operating across various ecological levels. Using this theory, we can investigate the potential contribution of both individual and contextual factors and their interactions to better account for the phenomenon of resilience within teachers (Gu, 2018). Ungar et al. (2013), following Bronfenbrenner (2005), acknowledge the salience of contextual influences on behaviour using a concentric circle model. The circles represent different levels of influence that contribute to resilience, beginning with individual factors in the centre, then spanning out across various contextual spheres of influence.[1] Within this framework, resilience is not considered to be an attribute of the individual, but rather a process of positive adaptation which occurs as different risk and protective factors interact in the presence of adversity (Beltman, 2015). Here the term 'positive adaptation' is used to encapsulate beneficial outcomes that individuals experience, despite facing risks within their environment (Howard & Johnson, 2004; Luthar, Cicchetti, & Becker, 2000; Naglieri, LeBuffe, & Ross, 2013). Risk factors are those that act to diminish a teacher's ability to cope (e.g. low self-esteem, excessive workload), whereas protective factors (e.g. high levels of confidence and support from colleagues) act to foster positive adaptation to the challenges of the profession (Beltman et al., 2011).

Within the psychological literature a distinction is made between compensatory and protective models of resilience (Fergus & Zimmerman, 2005). Compensatory models of resilience consider the independent effects of risk and protective factors on an individual's capacity to cope (e.g. as self-esteem increases, so does wellbeing). Within these models a simple picture of cause and effect is invoked, which implies that manipulation of a single factor (either in the individual or within their environment) will have a direct effect on outcomes. Protective models, however, take into account the interrelationships between risk and protective factors (e.g. a teacher's self-esteem might be *particularly* important if the teacher works in a school where teachers do not feel supported by the leadership team).

Relatively few studies have explored the interactions between the different risk and protective factors occurring in specific contexts. Notable exceptions include Papatraianou, Strangeways, Beltman, and Schuberg Barnes' (2018)place-based approach to teacher resilience in central Australia, which highlights the 'dynamism' of resilience in teachers and the need to explore the 'ecological interdependencies unique to a particular context and culture' (p. 893). Similarly, Leroux (2018)'s study of early career teachers in Quebec found that some protective factors were particularly important in specific environments: for example, colleague support and professional development opportunities were seen as crucial for teachers who were put into roles which lay outside of their expertise or were given 'the most difficult classes' (p. 110). Other studies have demonstrated that certain aspects of relational resilience may be especially important in particular contexts. For example, collaborative relationships between teachers and school leaders have been shown to be particularly pertinent to promoting teacher resilience in high-poverty schools (Ellison & Woods, 2019); and positive teacher–student relationships have been shown to act as a protective mechanism against emotional exhaustion (Taxer, Becker-Kurz, & Frenzel, 2019), which has particular relevance to early career teachers (Le Cornu, 2013). Interrelationships have also been found between factors at the individual level and the wider policy level. For example, Flores (2018) documents how risk factors relating to policy changes in Portugal (e.g. increases in workload, bureaucracy and accountability) have diminished teacher motivation, which has shown to be an important protective factor in the teacher resilience process at the individual level (Sinclair, 2008). Taken together, these studies support the view that resilience is a process involving complex interactions of factors operating across multiple ecological levels; however, the interrelationships emerging from these broader studies of teacher resilience have yet to be explicitly theorised.

The present study will focus specifically on these interdependencies, using Fergus and Zimmerman's (2005)distinction between compensatory and protective models of resilience to move beyond mere identification of factors towards an understanding of how these factors might interact within the resilience process in teachers within specific contexts. While the idea of compensatory versus protective models of resilience has been considered within the broader psychological literature (e.g. Fergus & Zimmerman, 2005; Windle, 2011), this has yet to be fully explored within the context of teacher resilience. This study is one of the first to apply these models within education.

Previous research in the area of teacher resilience has been successful in highlighting a wide range of factors which might influence the way that teachers experience their professional lives (see Mansfield et al., 2016 for a review; see also Ainsworth &

Oldfield, 2019; Kangas-Dick & O'Shaughnessy, 2020). A key limitation of this research is that it tends to consider factors affecting positive adaptation in isolation rather than as interacting elements constituting the broader resilience process. In order to capture the complex and contingent nature of the resilience process, the study aims to explore the following research question: *How do individual and contextual factors interact with each other to influence levels of adaptation in teachers*?

Method

Overview

The study adopts an exploratory qualitative approach to the investigation of the combinations of factors that influence teacher resilience and the ways in which they interact. The data comes from a series of five semi-structured focus groups with qualified teachers who attended a free half-day workshop disseminating findings from a quantitative study of teacher resilience conducted by the authors (Ainsworth & Oldfield, 2019).

Participants

The teachers who attended the workshops had been participants in our earlier quantitative study (Ainsworth & Oldfield, 2019). The workshop was carried out twice during Spring 2018. At the end of this training, participants were invited to take part in a focus group to discuss their experiences and perceptions in relation to teacher resilience. All 28 participants worked in a primary or secondary school setting, apart from one teacher who was working in a further education college. Although we did not formally collect age or years of experience from our focus group participants, the approximate age range was around 25 to 55 years. The focus group discussions suggested that participants had varied levels of experience and responsibilities (a mixture of class teachers, middle leaders, senior leaders and head teachers). Five focus groups were formed with approximately four to six members in each group.

The study was granted ethical approval by the University Ethics Committee. Fully informed consent was gained from each participant involved within the study before any data was collected.

Data collection

The focus group was semi-structured in nature (Braun & Clarke, 2013). In order to initiate discussion around the resilience process, participants were asked to conduct a ranking exercise. They were asked to rank order factors (written on cards) that were identified as being especially important within our earlier quantitative work (Ainsworth & Oldfield, 2019): *support from management*; *workload*; *atmosphere*; *colleague support*; *self-esteem*; *self-care*; *emotional intelligence*; *perceived conflict between beliefs and practice*; and *neuroticism*.[2] Once they had completed this task, the participants discussed their rankings with the rest of the group, justifying their reasons for the position of each factor. They also discussed other factors, which they considered to be important but were not included in the ranking exercise. The outputs from the ranking exercise were not used as

data itself, but to facilitate discussion around the factors which might be involved in the resilience process. The participants were also asked to reflect on the relative importance of individual versus contextual factors and any possible intervention strategies that could be used in schools to promote resilience. The questions used in the focus group served as a guide for the focus group facilitators; however, teachers were given the opportunity to speak freely about anything that they felt was pertinent to the broad topic of teacher resilience. The focus groups were run by the two authors – one psychologist and one teacher educator – with the help of two other teacher educators. Each focus group lasted around one hour. Within this time frame, participants were able to reach a level of discussion that produced useful data but avoided participant fatigue (Liamputtong, 2011). The focus group conversations were audio-recorded, and later transcribed.

Data analysis

The interview transcripts were initially analysed using thematic analysis. This method was selected as 'it offers an accessible and theoretically flexible approach to analyzing qualitative data' (Braun & Clarke, 2006, p. 77) and is particularly suitable for exploratory work in an understudied area: in this case the investigation of compensatory and protective models of teacher resilience. Braun and Clarke's (2006)six-step process was adopted to ensure rigour in the analytic process. This involved: familiarisation with the data set; generating initial codes; searching for themes; reviewing themes; defining and naming themes; and then producing a report. The two researchers worked independently on the analysis before discussions took place, and a consensus was agreed through discussion around the key themes that emerged through analysis of the data. A large number of themes were generated within the focus groups as participants talked animatedly about the range of factors that they felt influenced their ability to manage the many demands of the profession. While some of the themes related to individual factors having a direct effect on positive adaptation, e.g. self-care, others related to more complex relationships between factors, namely: mediation and interaction effects (e.g. some participants felt that support from management enhanced their self-esteem, which in turn supported the resilience process). In fact, what we found most striking during the interview process was that teachers within all the focus groups spontaneously spoke of how combinations of factors work together to affect teachers' ability to cope with their professional roles, despite not being asked specifically to reflect on this. When asked to decide which factors they felt were most important, teachers expressed difficulty with organising the factors in a hierarchical way. For example, one teacher stated:

> I think ideally I'd like to do this in a cyclical way [. . . .] Because they'll interlink, so you'd like some arrows because things, kind of, lead on and they link and I don't think there's any start point. (Focus group 4).

Given that the identification of individual factors relating to teacher resilience have been well documented elsewhere (e.g. Beltman et al., 2011; Mansfield et al., 2016), this article will focus on teachers' perceptions of how different factors work together to affect teachers' lived experience of the profession. In other words, this article will focus on the indirect, 'protective' effects that particular factors might have within the resilience process in teachers, rather than on the direct effects.

Before we introduce the key findings relating to the interrelationships between factors that teachers considered to be pertinent to their working lives, we would like to draw attention to the nature of the terminology used to describe these relationships. This study represents an exploratory attempt to use qualitative methods to explore models, which normally reside within the quantitative literature.

Compensatory and protective models of resilience explored in other domains (e.g. developmental psychology) tend to be investigated using statistical methods to evaluate interaction effects connecting quantitative variables (Fergus & Zimmerman, 2005). Within the present study, we will use quantitative terminology (e.g. 'mediation' and 'moderation') to label the interrelationships between factors described by teachers within our qualitative data – as a way into this understudied area. The aim of this novel analytical approach is to identify possible interrelationships that might be pertinent to teachers (as identified by the teachers themselves) using a 'bottom-up' approach, which might then be modelled statistically in later quantitative work.

A mediation effect occurs when a predictor has an indirect influence on a particular outcome. For example, in the developmental psychology literature, Oldfield, Humphrey, & Hebron (2015) found that the effect that parental attachment had upon prosocial behaviour was partially mediated by school connectedness. In other words, parental attachment influenced prosocial behaviour indirectly by impacting school connectedness which, in turn, had an effect on prosocial behaviour.

A moderation effect also relates to a predictor having an indirect effect on a particular outcome, but in moderation: the moderator variable changes the strength of the relationship between the predictor variable and outcome. For example, research has shown that school-level achievement can moderate (i.e. reduce) the effect that cumulative risk has on behaviour problems (Oldfield, Hebron, & Humphrey, 2016).

Mediation and moderation effects are commonly represented within quantitative work by box-and-arrow models like those shown in Figure 1, where the horizontal arrow represents the direct effect that the predictor has on the outcome variable and the diagonal and vertical arrows represent the mediating and moderating effect of another variable respectively.

Consideration of mediation and moderation effects allows us to explore the complexity of the relationships between different influences on the resilience process. An understanding of such interrelationships is important for theory building and testing and may be considered a sign of maturity in a particular field (Karazsia & Berlin, 2018). Within the field of teacher resilience it is important for us to develop a theory of change which captures the complexity of the resilience process (Ungar et al., 2013) to inform meaningful interventions. Within this exploratory paper we do not aim to build a comprehensive theory of teacher resilience; rather, we demonstrate the prevalence of moderation and mediation effects in helping to understand teachers' accounts of their resilience processes.

Findings

Analytical process

The findings that follow present an account of the indirect effects which teachers described as playing an important role in the resilience process, grouped in terms of the ecological level of the factor driving the effect. The three ecological levels which
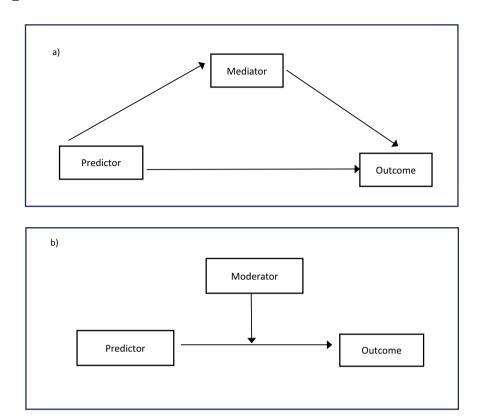
Figure 1. Box and arrow diagrams to represent (a) a mediation effect and (b) a moderation effect.

teachers referred to within the focus groups were classified as: the exosystemic level (Bronfenbrenner, 2005) – factors relating to the broader policy landscape (curriculum changes, accountability frameworks and so on); the school level – factors operating within the teacher's particular school; and the individual level – factors relating to attributes and behaviours of the individual teacher. We will provide evidence for three key findings: (i) the presence of complex interdependencies between risk and protective factors that drive the teacher resilience process; (ii) a prevalence of indirect effects which operate primarily *between* ecological levels rather than *within* them; and (iii) a tendency for mediation effects to predominately involve contextual factors influencing individual factors, rather than the other way around. Within the discussion we will then bring these findings into conversation with the broader resilience literature and explore the implications of this work for theorising around notions of teacher resilience and designing meaningful interventions.

It is important to note that Figure 1 is included as a heuristic to help the reader visualise the relationships being described by the teachers. While this figure resembles the diagrams used within quantitative modelling of causal relationships (e.g. path analysis and structural equation modelling), we are not claiming that our qualitative data conclusively demonstrates causal relationships between the factors which the teachers discuss; rather, we are

using quantitative constructs (mediation, moderation) as a way to identify potential patterns of influence within and between ecological levels and to identify what kind of relationships might be useful to model within a follow-up quantitative study.

It is also important to note that when describing the challenges teachers face and the protective resources they draw upon to manage them, our participants did not tend to describe the influence that risk and protective factors had on specific outcome variables (e.g. wellbeing, job satisfaction, burn-out); rather, they tended to talk in general terms about how different factors interact to affect their ability to cope within the profession. In the analyses that follow, we therefore use the umbrella term 'positive adaptation' (Luthar et al., 2000) to describe the outcome of the resilience process reported within teachers' accounts.

Indirect effects on levels of adaptation driven by exosystemic factors

Teachers discussed the impact that exosystemic factors (Bronfenbrenner, 2005), originating beyond the individual and their specific school context, had on the resilience process. These factors related to elements of the broader policy landscape which schools and individual teachers have limited control over. For example, one teacher emphasised the impossibility of keeping up with the frequency of changes to curriculum and assessment policy, suggesting that however 'resilient' individual teachers and schools try to be, their attempts to thrive within the profession are hampered by unmanageable pressures originating at a national level:

> You know, how can we be resilient when the Government is constantly changing the goalposts, changing the curriculum like these ridiculous new GCSEs, the SATS, the assessment, the levels, you know, the goalposts are constantly changing. How can you cope with that? (Focus group 1)

The power of exosystemic influences, which are often beyond the control of the school and the individual, to overshadow what can be a rewarding profession was described with frustration:

> It's not because of the school, it's because of the nonsense that we are now facing and even I like, I do still, hand on heart, I love being a teacher, but what I don't [like] is the nonsense that we have to deal with, you know, the curriculum changes, the pressures, the accountability. (Focus group 1)

While these teachers are discussing the impact of curriculum and assessment changes specific to England, research in other countries has reported similar effects of new policies on teacher wellbeing (e.g. Acton & Glasgow, 2015; Avalos & Valenzuela, 2016; European Trade Union Committee for Education (ETUCE), 2007).The above quotes demonstrate that the risks within teachers' working conditions are often found within the wider exosystemic level, and it is these factors that have a major impact on their resilience process.

The specific impact that exosystemic risks (e.g. the high-stakes accountability framework within England) have upon positive adaptation is often mediated through an increase in workload and diminished morale. One teacher reported:

> Recently we got a, 'Requires improvement', from Ofsted which lowered the staff morale right across the school … workloads increased, people are under so much stress. (Focus group 5)

Another teacher described the indirect exosystemic influence of accountability pressures within the resilience process, mediated through self-efficacy. Interestingly, even though this teacher had succeeded at fulfilling the requirements of the performativity framework, she still associated this exosystemic influence as having a negative impact within the resilience process:

> I work in a really high attaining school that gets outstanding and individual members of staff get outstanding a lot which you'd think leads to increased confidence but I feel like each time I worry more about the drop and the fall from grace. So I think the pressure each time increases. (Focus group 5)

The potential risks associated with changes to the education system were also found to interact with self-esteem and parental relationships. One teacher expressed concern about the negative effect of the 'Progress 8′ framework in England on teacher self-esteem and self-efficacy. Staff were feeling ill equipped to speak confidently to parents about the new framework, leading to lower levels of adaptation:

> We mentioned talking about the Year 11 parents evening last night and having discussions with parents about the new GCSE […] it has had an impact on staff self-esteem really hasn't it? [… .] They feel their confidence in actually saying to a parent I feel that your child is working well, or we know what they need to do improve […] we don't really know what all these numbers mean. (Focus group 2)

What is evident from the section presented here is that there are complex interdependencies between risk and protective factors in the teacher resilience process. There are a number of indirect effects which operate *between* ecological levels, where often exosystemic factors influence school- or individual-level factors that in turn have an effect on positive adaptation.

Indirect effects on levels of adaptation driven by factors at the school level

Support from management

The factor which teachers talked about the most was support from management. Teachers described a number of instances where support from management seemed to be driving indirect effects mediated by a range of individual and other school-level factors. Teachers from one school talked enthusiastically about how the head teacher had facilitated a range of self-care activities which they engaged in as a group (e.g. participation in Tough Mudder, after-school yoga classes for teachers). The teachers felt that these activities had strengthened their resilience, mediated through a positive impact on school culture and the nurturing of relationships within school:

> The Head does Parkrun every week and we are all now kind of doing it and checking each other's times and on a Monday coming in and 'saying I got a personal best!' Which, you know, all this kind of camaraderie that wasn't there at other schools that I've worked in. (Focus group 1)

This positive impact described here resonates with research by Peters and Pearce (2012) and Le Cornu (2013),who have argued that teacher resilience can be enhanced by school leaders who take a personal interest in their staff, developing supportive cultures and building self-esteem.

The effect of support from management on positive adaptation was also found to be mediated through self-esteem: 'I think that if you've got supportive management then your self-esteem will also be benefited' (Focus group 5). One teacher suggested that support from management and other colleagues can work together to promote self-esteem:

> . . . things like supportive management and support from colleagues. It's almost like if you're having a rubbish day and you're feeling really low when your self-esteem is suffering but that pulls you up. (Focus group 4)

Another teacher felt that supportive management, workload and teacher self-esteem were all interconnected:

> The workload hasn't changed really, it's just the way it's managed that's changed [. . .] being given autonomy and also the environment to say actually I know my deadline's coming up, I'm struggling with this, I need your support. [. . . .] He is supportive enough and confident enough as a leader to say. 'OK, that's fine, if that's what you need', and actually he is getting the best out of the staff [. . .] and that impacts on your own self-esteem. (Focus group 1)

This example of a head teacher trying to protect their staff from the potentially damaging effects of high workloads reflects the current emphasis placed on school leaders to help tackle workload issues in school following the recent UK review of teacher workload (Department for Education, 2018a). While it is too early to say whether these initiatives have had widespread impact on teachers, it was noted within our earlier quantitative work (Ainsworth & Oldfield, 2019) that teachers' (self-reported) workloads varied widely, with a moderate association found between support from management and perceived workload.

Teachers identified a further indirect effect driven by support from management, this time mediated through atmosphere:

> I think that it is really important that [leadership] impacts on atmosphere because if you have got leaders that are walking round saying these really destructive comments and walking off with not a second thought, the atmosphere can very rapidly decline. (Focus group 1)

For this teacher, careless comments made by leaders were felt to have a damaging impact on the school atmosphere. Another teacher described a similar mediation effect, but in this case, they described the positive influence that leaders can have on the culture within school:

> Our current Head [. . .] he very much talks about culture, it's a culture, it's a culture change from the sort of dictatorial management system that we had previously to this, development and supporting one another. (Focus group 1)

Teachers also spoke about how the culture around workload differs between schools and how school leaders have a responsibility to lead by example:

> I think it has to start with role modelling from the top. I think if the senior leaders aren't thinking about this and walking the talk, the whole thing just falls apart because if they're saying, 'Go home at a reasonable time and this will contribute your wellbeing and self-care', but they're there until . . . they're there at crazy o'clock in the morning until late at night the whole system falls down and that credibility disappears. (Focus group 4)

Although the importance of 'leading by example' is well established within the school leadership literature (Ainsworth & Oldfield, 2019), little attention has been given to the potential impact of leaders modelling workload expectations. Our participants' concerns are reflected, however, in a recent leadership article written for a practitioner audience, which highlights the importance of leaders modelling healthy working practices in order to dispel the myth of 'presentee-ism' (Starbuck Braidley, 2018)

Another way in which school cultures were perceived as being influenced by leadership behaviours was through the introduction of reward systems for staff. Some teachers described such systems as having a positive influence on the culture within school:

> What I like about the 'Colleague of the Week' is that they do recognize and reward support staff and ancillary staff within the school because we are all part of that team and we need to work together. (Focus group 2)

Other teachers, however, saw such schemes as potentially divisive, leading to resentment and a competitive culture amongst staff:

> You see the faces in the staff-room as well, 'I did this and I didn't get recognised for that', or, 'my line manager didn't nominate me'. (Focus group 2)

This is an example of how well-intentioned actions aimed at promoting a supportive school culture do not always have the intended impact.

Finally, support from management was seen to be particularly important for positive adaptation in the presence of particular risks, such as having a difficult class:

> If you've got a difficult class, the threat to self-esteem, it can be massive and can last a whole year in a primary school [. . .] it can just attack that positive mindset [. . . .] What's important for management is recognising that that impact is going to be massive for that person for a year. What you can do to support their needs is beyond that person's resilience, I think it needs to be a strategy doesn't it? (Focus group 2)

This quote suggests an interaction between support from management, pupil behaviour and teacher self-esteem. Support from management can act as a moderator to reduce the risk that pupil behaviour has upon self-esteem and positive adaptation. Further evidence for this interaction comes from work which demonstrates a strong association between leadership approach and behavioural climate (e.g. Day et al., 2009), alongside research which demonstrates the potentially deleterious effects of disruptive pupil behaviour on teacher self-esteem (Spilt, Koomen, & Thijs, 2011).

Our work supports Mansfield et al.'s (2016)suggestion that effective leadership is 'critical to resilience-promoting school cultures' (Mansfield et al., 2016, p. 81), while also emphasising the need to recognise the complex relationship that leadership can have with other factors, leading to varied levels of adaptation.

Support from colleagues

Teachers recognised the importance of colleague support as being critical in overcoming risk within their working lives and noted the potential for colleague support to influence other factors within the resilience process. For example, one teacher noted that support from colleagues can have an indirect effect on teachers' ability to cope, mediated through self-esteem:

> We help build each other up, so that's really good and we have, like, certain teachers who, you know, if you're having a bad day and they notice you're having a bad day, they'll come in and go, 'You're doing brilliantly, keep going!' So that's really good and helps [you] to say, 'Well, do you know what? Maybe I'm not that bad. Maybe it didn't go too badly.' (Focus group 5)

While little work has been done to model such indirect effects in teachers, research has demonstrated that teachers thrive when they feel supported by their colleagues (Johnson et al., 2014; Vance, Pendergast, & Garvis, 2015). Le Cornu (2013) has acknowledged the importance of 'growth-enhancing relationships' that generate a sense of belonging, self-confidence and connectedness, which, in turn, supports teacher resilience. Relationships are key for resilience building within teachers, and mutual social support from colleagues is seen as being of particular importance (Gu, 2018).

A further indirect effect of colleague support on positive adaptation identified within the focus group data related to the protective effects of collaborating with teachers from other schools:

> We've got a big programme of teachers from other schools all meeting up as well – regularly, twice a term – and that works well because they're sharing good practice and if you're a one form entry school it's doubly important being able to share with [them]. So they come back feeling affirmed, what they're doing and that the difficulties they are facing are common, so . . . that all helps. (Focus group 3)

The assurance which teachers gain from working within a broader social network suggests a protective effect of support from colleagues, mediated through self-efficacy. By sharing good practice and 'feeling affirmed' about what they are already doing, teachers are more likely to feel capable within their roles. This finding is supported by other work, which shows an association between social support and self-efficacy in teachers (Korte, 2017; Minghui, Lei, Xiaomeng, & Potměšilc, 2018).

School culture

As well as being described as a mediating variable within the resilience process, school culture was also described as being a primary factor driving other mediation effects. One teacher spoke of the influence that school culture can have on the resilience process, mediated through a positive mindset: 'I believe if you work in a happy environment, then you're more likely to be positive and be more resilient' (Focus group 2). Another teacher talked about how the impact of school culture on positive adaptation can be mediated through the management of workload. In response to another member of the focus group talking about working long hours, they replied:

> Even then you said, 'I work my break and I work my lunch', you know, and that's the atmosphere. . . .. You shouldn't have to do that, it's your break and it's your lunch, recharge, you're teaching all day. There's this culture I think we need to change. (Focus group 5)

Within this quote, the teacher is describing how a long-hours culture in school can be a significant risk factor for teachers. The school culture can influence management of workload, which, in turn, has an effect on positive adaptation.

One teacher suggested that attempts to manipulate school culture to promote teacher resilience needs to be driven at an institutional level:

> You know, me chatting about mindfulness or self-care and, you know, I think that it needs to come as an institution doesn't it? It can't just be one person trying to flog these ideas. (Focus group 3)

Here the participant is noting that although self-care and mindfulness might be helpful in promoting resilience, these individual factors need to be embedded into the culture of the school to have a widespread impact. This comment resonates with previous research which has acknowledged that building resilience is more than an individual's responsibility and that promoting healthy cultures within schools is essential for teacher wellbeing and identity (Gu, 2018; Johnson et al., 2014). The data highlight the need for further research in partnership with schools, which moves beyond listing factors that are implicated in teacher resilience towards an understanding of the challenges that schools might face when trying to manipulate these factors to promote resilience. These data relating to school-level influences highlight the complexity between different risk and protective factors in the resilience process. They suggest that a number of indirect effects are evident operating between different ecological levels. Often the driving factor starts at a school level and then affects an individual-level factor, which in turn impacts levels of positive adaptation.

Indirect effects on levels of adaptation driven by factors at the individual level

The majority of indirect effects described by teachers were driven by factors operating at the school or broader exosystemic level. However, there were a couple of instances where teachers reported indirect effects driven by individual factors, namely self-care and self-esteem.

Self-care

One teacher talked about the indirect effect that self-care can have on the ability to cope within the profession, mediated through self-esteem, workload and school atmosphere:

> I guess for me the most important thing is actually your self-care, because that's something you can control. So if you've got good self-care, then you are likely to be good physically and mentally, therefore you have high self-esteem. And I guess if you have good high self-esteem then you can manage your workload, create a positive atmosphere, manage what you have to manage. (Focus group 2)

For this participant, self-care is the foundation from which to start and then once this is in place it will help improve other important protective factors that help support resilience. The association between self-care and self-esteem has been established within other populations (e.g. within nursing: Leao et al., 2017 and amongst the elderly: Bagheri-Nesami, Goudarzian, Mirani, Jouybari, & Nasiri, 2016). Within the teacher resilience literature, however, the role that self-care plays in the adaptation of teachers remains understudied.

Self-esteem

As well as serving as a mediator for the impact of self-care on positive adaptation, self-esteem was also identified as a primary factor driving indirect effects within the resilience process. One teacher, when reflecting on her experiences of mentoring student teachers, talked about how the influence of self-esteem can be mediated through self-awareness:

> I work a lot with trainee teachers and I think one of the things that they come in with is, at the back of their mind they've got this seed: 'Is this for me?' [. . .] I think self-esteem is so high on the list because it's fundamental to how they view themselves in that self-awareness. (Focus group 4)

Within the same focus group the teachers also talked about the way that self-esteem can have a moderating effect on the impact of other protective factors, such as support from management and other colleagues:

> I think that if your self-esteem is low, the other factors [support from management and other colleagues], though they contribute, [. . .] it's really difficult for those to be effective. (Focus group 4)

These comments highlight the importance of self-esteem, which was identified as the second most important factor at the individual level (behind self-care) for predicting levels of positive adaptation within our earlier quantitative work (Ainsworth & Oldfield, 2019). While the effects of self-esteem on resilience have been considered within the broader psychology/resilience literature (e.g. Arslan, 2016; Hayter & Dorstyn, 2014; Wang et al., 2016), the potential role of self-esteem in developing teacher resilience has received comparatively less attention. Le Cornu (2013) has argued that how comfortable a teacher feels as a person and in their professional role is important in their resilience process; however, further research into this seemingly foundational factor and its interaction with other influences on teacher resilience is needed.

Discussion

Previous work on teacher resilience has focused on identifying compensatory factors, which act to neutralise or lessen the impact of risk within teachers' professional lives. The current study builds upon this body of work by looking beyond merely identifying protective factors and their direct effects to explore the presence of mediation and moderation effects within the resilience process. Analysis of teachers' descriptions of the resilience process yielded three key findings: the presence of complex interdependencies between risk and protective factors; a prevalence of indirect effects which operate primarily between ecological levels rather than within them; and a tendency for mediation effects to predominantly involve contextual factors influencing individual factors, rather than the other way round. These findings have important implications for how we conceptualise teacher resilience and for possible routes to intervention.

The importance of context: interdependencies between ecological levels

A few of the interrelationships between factors identified from the focus group data operated *within* ecological levels; however, the vast majority of them operated *between* different ecological levels. This pattern of relationships supports Ungar's proposition that 'the nature of any single system is to always be in a reciprocal relationship of dependency and influence with all the other systems' (Ungar et al., 2013, p. 356). These interdependencies between factors which emerged from teachers' narratives demonstrate the need for models of teacher resilience that incorporate both compensatory and protective effects (Fergus & Zimmerman, 2005). While the use of a purely compensatory model provides an important first step in attempting to quantify the construct of teacher resilience (Ainsworth & Oldfield, 2019), the data reported here suggests that more sophisticated modelling is needed to capture the complex interplay between a range of risks and protective factors operating across a number of ecological levels.

It is also interesting to note that most of the mediation and moderation effects involved contextual factors (either at the school or exosystemic level) influencing individual factors (with the exception of self-esteem mediated through self-awareness and self-care mediated through self-esteem). This finding emphasises the importance of context in the development of teacher resilience and demonstrates the need to 'decentre' the individual when considering possible interventions (Price et al., 2012). Within the developmental resilience literature, factors relating to the person and the environment are generally thought to make a comparable contribution to the resilience process (Lerner, 2006). Ungar et al. (2013), however, point out that within populations that are uniformly exposed to high levels of stress, environmental factors become more influential than individual characteristics. One might argue that teachers working under current conditions characterised by 'long hours, disruptive students, excessive paper work and increasing casualisation' (Price et al., 2012, p. 81), who we know are leaving the profession at an alarming rate (Department for Education, 2018b; Foster, 2018), fit into this category. The mediation effects presented here seem to suggest that the resilience process in teachers, who are working in conditions of institutionalised adversity, are influenced by contextual factors to a greater degree than their individual characteristics. Although teachers described personal characteristics and behaviours such as self-esteem and self-care as being important, they frequently spoke of how these factors were influenced by the environment, in line with Ungar et al.'s observation that 'psychological characteristics like personality [are] influenced by environments which make them more or less likely to contribute to meaningful coping behavior' (Ungar et al., 2013p. 352). This finding has important implications for the current 'hyper-individualised' discourse surrounding teacher resilience (Johnson & Down, 2013), which keeps the responsibility to 'be more resilient' firmly at the feet of teachers. Rather than focusing solely on the individual teacher as the central unit of analysis, it is important to consider resilience as 'a broader set of interactional multilevel protective processes' (Ungar et al., 2013, p. 353) and to note that 'individuals are not always the most important locus for change in complex systems' (Ungar et al., 2013, p. 356). We are not suggesting, however, that individual strategies for teachers should not be developed and promoted. The incorporation of approaches to support individual resilience within teacher education has the potential to provide a valuable and immediate source of support for student teachers as they begin their

teaching careers (Mansfield & Beltman, 2018; Mansfield et al., 2016). Our findings suggest that such programmes might include strategies to support students in developing and maintaining healthy levels of self-care, self-esteem, self-awareness and self-efficacy. However, our findings also suggest that without addressing issues at the school and wider policy level, e.g. excessive workloads (National Education Union, 2019) and pressures associated with the current climate of high-stakes accountability (Bousted, 2020; Perryman, Maguire, Braun, & Ball, 2018), we will be fighting an uphill battle.

Implications for intervention: towards a distributed approach to teacher resilience

The complex interdependencies presented here provide support for the notion of equifinality (Cicchetti & Rogosch, 1996) as applied to the teacher resilience process: the idea that rather than there being a single route to resilience there are multiple pathways involving a variety of factors and processes across different ecological levels. While such pathways may differ greatly in terms of the factors involved, the interactions between them and their differential impact (depending on the individual and their specific context at a particular time), similar outcomes may be experienced (Ungar et al., 2013). Searching for a single 'resilience-building' factor is therefore not appropriate – rather we might take note of the factors, which seem to be amenable to change and are likely to promote positive outcomes (Sroufe, Egeland, Carlson, & Collins, 2005). Ungar and colleagues note that the most successful interventions have been those which focus on an individual's social ecology, rather than just attempting to manipulate characteristics of the individual (Ungar et al., 2013). Given the principle of equifinality (Cicchetti & Rogosch, 1996) and the varied environments in which teachers work, it is unlikely that a 'one size fits all' resilience package for schools would be effective. Instead, we would recommend a more flexible approach, which involves raising awareness of the factors which have been identified as being potentially important (e.g. Ainsworth & Oldfield, 2019; Mansfield et al., 2016) and the interactions between them, as well as opportunities for the co-production of ways forward between teachers, leaders and policy makers, through discussion and experimentation. Experimentation is likely to be an essential part of any resilience-based intervention given the unpredictability that comes with working across multiple ecological levels (Ungar et al., 2013).

Of course, a key barrier which school-led interventions are likely to face when attempting to promote teacher resilience relates to the lack of control that schools have over exosystemic factors (by definition). As our data have shown, factors such as high-stakes accountability frameworks and changing government initiatives can have a significant impact on teachers' resilience, mediated by a range of other factors. As put succinctly by Ungar, when we consider the ecological nature of resilience, 'Change becomes less individual and more political' (Ungar et al., 2013, p. 360). While our findings suggest that individual factors such as self-esteem and self-care play an important role in teacher resilience, any dramatic improvement to the co-called 'teacher resilience problem' would require change at all levels, including steps to address fundamental problems within the education system (Johnson et al., 2015). Price et al. (2012) take the critical stance that rather than focusing on supporting individual teachers to 'build their resilience' we should examine why the conditions in which teachers are located are so adverse in the first place. By adopting a distributed approach to developing resilience, which aims to mitigate/

reduce risks and promote protective processes operating across and within multiple ecological systems, schools and policy makers can avoid reductionist interventions approaches that place a disproportionate amount of responsibility on individual teachers.

Limitations

The focus of the present study was on exploring protective factors that promote positive adaptation generally in teachers. A limitation of this approach is that no measure of risk was taken. This was assumed on the basis of the focus group interviews – teachers mentioned risks that they experienced and how these were overcome – and based on the well-documented teacher attrition crisis (outlined within the introduction). We did not, however, attempt to document the specific risks that each of the participating teachers with this study faced. A further drawback concerns the potential bias within the sample, as all the participants had attended a free workshop on resilience and therefore had some prior interest in the topic. Teachers struggling to cope with the demands of the profession may have been more likely to attend with the aim of seeking out supportive strategies; on the other hand, teachers who were experiencing very high levels of adversity may have been less likely to attend, due to a sense of helplessness and/or feeling overwhelmed. It is possible, therefore, that teachers experiencing very low levels of resilience may have been excluded from the research. While we did not systematically explore participants' motivations for attending, anecdotal evidence from speaking informally with them during the workshops suggested that their reasons were varied, with some teachers wanting to build on existing successful work that was occurring in school to support teacher wellbeing, and others attending out of desperation associated with very low levels of staff morale.

Conclusions

This study has provided strong evidence for the prevalence of complex interdependences between risk and protective factors within teachers' narratives as they describe the resilience process. The interrelationships between these factors, described by teachers, provide support for the notion of equifinality within the domain of teacher resilience (Cicchetti & Rogosch, 1996). The indirect effects on positive adaptation were found to operate both within and across ecological factors as predicted within Ungar's social-ecological view of resilience (Ungar et al., 2013). Any intervention designed to improve teachers' levels of adaptation needs to adopt a distributed approach to resilience, which considers the complex interdependencies operating between multiple systems at the level of the individual, the school and the broader policy context. We argue that lessons need to be learned from many decades of resilience research within the developmental literature, where effective interventions focus on 'changing the odds stacked against the individual' rather than putting the onus on 'individuals themselves to change' (Ungar et al., 2013, p. 357).

Notes

1. Ungar et al. (2013)emphasise that while the concentric circle model is a useful heuristic, the nature of these levels is more diffuse and non-hierarchical than a simple nested structure suggests.
2. Neuroticism was measured as part of the Ten Item Personality Measure (TIPI, Gosling, Rentfrow, & Swann, 2003) and emerged as a significant factor in our original analysis of the quantitative data; however, during the review process for the phase one paper, the data was reanalysed, omitting this as a variable, in response to concerns over the small number of items in the personality scale used. All other factors listed remained within the final reported analysis and emerged as significant factors (see Ainsworth & Oldfield, 2019 for full details).

Disclosure statement

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