MENTAL TOUGHNESS, EMOTION EXPRESSIVITY AND PSYCHOLOGICAL WELL-BEING

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DECLARATION

No portion of the work referred to in this thesis has been submitted in support of an application for another degree or qualification at this or any other university or institute of learning.

DEDICATION

I dedicate this work to Jehovah Almighty God, whose grace and mercy have brought me this far despite all the huddles and different life challenges. I give Him all the glory for His Compassionate and Loving Kindness.

PREFACE

My journey toward this PhD began with a deep curiosity that sparked in my teenage years—a curiosity to understand people's behaviour; mainly how they express their emotions and their impact on their well-being. This fascination became the cornerstone of my academic journey and led me to explore the science of emotions. My initial research into how emotions shape human experience and the profound influence of positive emotions on various aspects of human functioning. I was struck by the realisation that positive emotions enhance our daily experiences. Driven to learn more, I enrolled in an online course. From the course, I discovered that positive emotions profoundly influence the mind and the body, affecting the brain, immune system, and an individual's psychological well-being. In my quest to expand my understanding, I came across a lecture by Dr. Barbara Fredrickson, a pioneer in positive psychology, on the transformative effects of meditation in fostering positive emotions. Inspired and excited by the lecture, I delved deeper into this area of research, where I found compelling evidence that mental toughness is closely linked to positive emotions and psychological well-being. This deepened my commitment to study these relationships. This revelation became the foundation of my doctoral research, a path that has been both challenging and immensely rewarding. With my supervisors' encouragement and invaluable guidance, I immersed myself in positive psychology, gaining the knowledge and tools necessary to pursue my goals.

This research has been more than an academic endeavour; it has taught me the significance of mental resilience, particularly during challenging times. My experiences reinforced the importance of staying mentally tough and positive to regain and maintain my well-being. This journey taught me that difficult periods can catalyse personal growth. Throughout this process, I have been blessed with the unwavering support of my supervisors, whose mentorship has been crucial to my success. I am incredibly grateful for the grace and strength I found in my faith, which has been a steady source of encouragement. This journey has made me stronger and more resilient, and I am profoundly grateful for God's faithfulness and the support of my academic community.

As I submit this thesis, I do so with immense gratitude and a renewed commitment to understanding and enhancing human resilience and well-being. May this work inspire others to pursue their journeys of growth and discovery, knowing there is always an opportunity to learn, grow, and serve, even in the face of challenges. I am humbled by the opportunity to contribute to this field of study, the personal growth I have experienced, and the persistent support I have received. This work is the tangible outcome of several years of arduous academic research and a personal journey of discovery and resilience. It stands as a testament to the power of positive psychology and the enduring human spirit in the face of life's challenges.

ACKNOWLEDGEMENT

ABSTRACT

Mental health is essential to human well-being and integral to our daily lives. One population that experiences mental health challenges, and the focus of this research programme is the student population. Students encounter unpredictable and stressful situations, such as being away from home, fear of the future, financial stress, finance-related issues like student loans, loneliness, transitional issues, educational hardships, difficulty getting jobs, and fear of the job market. This research explores the connections between mental toughness, emotional expressivity, and psychological well-being among university students through a mixed-methods approach across three interconnected studies. Study 1 used a cross-sectional design with 292 participants to explore the relationship between mental toughness and psychological well-being, with emotional expressivity as a mediator. Results indicated a significant positive correlation between mental toughness and psychological well-being, with emotional expressivity partially mediating this relationship, suggesting emotional expressivity enhances the beneficial effects of mental toughness on well-being. Building on these findings, Study 2 employed a quasi-experimental design to evaluate a four-week loving-kindness meditation (LKM) intervention on mental toughness, positive emotions, and psychological well-being in a sample of 62 students (26 in the LKM group, 36 in the control group). Mixed ANOVA analyses demonstrated significant improvements in mental toughness (and psychological well-being in the LKM group compared to the control group. While positive emotions in the LKM group remained stable, the control group experienced a significant. Study 3 provided a qualitative perspective by examining participants' experiences in the LKM program through thematic analysis of semi-structured interviews with 20 participants. Findings revealed increased emotional resilience, self-acceptance, relaxation, and personal growth resulting from engaging with the LKM. Although participants encountered initial challenges in daily adherence, they reported enhanced engagement and transformative effects over time. Many participants intended to continue meditation independently, highlighting the intervention's lasting impact. Together, these studies emphasise the relationship between mental toughness and emotional expressivity in psychological well-being, illustrating that LKM can be a powerful tool for enhancing mental toughness and psychological well-being. Future research should further investigate the long-term sustainability of these effects, refine LKM practices based on participant feedback, and explore emotional expressivity's role in optimising meditation-based interventions.

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CHAPTER 1

"I had to begin to learn less about disease and a whole lot more about the embedded health in the world around me if I was to make an impact".

-Richard J. Jackson

1.1 Introduction

The well-being of students is crucial to their academic performance and overall livelihood (Hubble & Bolton, 2020). Universities recognise that the COVID-19 pandemic has impacted students in different ways, resulting in health issues for several individuals (Mojtahedi, Dagnall, Denovan, Clough, Hull, Canning, Lilley & Papageorgiou 2021). The prevalence of mental illness has risen steadily since students first began receiving an education (Cooke, Barkham, Audin, Bradley, & Davy, 2006; UK Royal College of Psychiatrists, 2011). University students encounter numerous challenges, including separation from home, anxiety about the future, financial strain, issues related to student loans, isolation, transitional difficulties, academic obstacles, employment challenges, and apprehension regarding the job market (Nelson, Quinn, Marrington, & Clarke, 2012; NUS, 2013; Scott et al., 2011; Springer, Parcel, & Baumann, 2007; Stamp et al., 2015). Young adults typically experience a vulnerable phase upon entering higher education. The transitional experiences of university students represent periods of risk for young adults (Denovan & Macaskill, 2016; Hunt, Eisenberg, & Kilbourne, 2016). The COVID-19 pandemic exacerbated learner difficulties, making it significantly more challenging for students to transition to university (Bidwell, Grether, & Pederson, 2020). Adapting to university life necessitates a mental adjustment, as this process is marked by uncertainties and shifts in academic, social, and emotional demands (Nelson et al., 2012; Pritchard, Wilson, & Yamnitz, 2007).

The student population's mental health problems have many repercussions. The consequences of these challenges and stressful conditions may be detrimental. The changes that occur can be demanding and induce stress, which always influences certain outcomes such as college attrition, decreased job opportunities, poor academic performance, and, in extreme instances,

suicide (Hubble & Bolton, 2020; Thorley, 2017; Youthsight, 2013). According to Thorley (2017), in 2015, 134 students committed suicide. The incidence of mental stress among students has consistently increased (Nightline, 2013; NUS, 2013, 2015; Unite, 2016; YouGov, 2016; Youthsight, 2013; Hubble & Bolton, 2020). Concerns have been made about the provision of help for students with mental health concerns and the reaction of institutions (Macaskill, 2013; UK Royal College of Psychiatrists, 2011; Wynaden, Wichmann, & Murray, 2013). In recent years, there has been a noticeable decline in mental health and well-being among students (Thorley, 2017; Hubble & Bolton, 2020). The potential negative impact on both psychological and physical health is significant, as it is closely linked to impairments in psychological well-being, as well as social, occupational, educational, and overall human functioning, particularly if not effectively managed (Balzarotti, John & Gross, 2014; Gerber et al., 2015; Scott, Mihalopoulos, Erskine, Roberts, & Sanders, 2011; Springer, Parcel, & Baumann 2007; Stamp, Crust, Swann, Perry, Clough, 2016). The reduction in financial support has also led to a rise in mental health issues among the student population, particularly among self-funded students (UK Royal College of Psychiatrists, 2011). Mental health issues are linked to specific psychological distress, which includes suicidal thoughts, disordered eating, poor academic performance, withdrawal from school, and inadequate learning behaviour (Duane, Stewart, & Bridgeland, 2003; Kugu, Akyuz, Dogan, Ersan, & Izgic, 2006). Low psychological well-being has been associated with the withdrawal from studies (Unite, 2016), resulting in a loss of potential income for universities, individuals, and the government (Thorley, 2017). According to HESA (2017), 6.3% of undergraduate students withdrew from university before their second year. It was observed from the study that this dropout rate was notably high. The COVID-19 period generated numerous challenges for students, particularly those not residing with their families (WHO, 2020). Implementing targeted precautionary measures to mitigate psychological distress and enhance psychological well-being is crucial. The government's policies in the United Kingdom facilitated university admission for numerous young adults. Some individuals possess the resilience to manage challenges and stressful situations, approaching the future confidently, whereas others lack confidence and certainty regarding future outcomes (Clough & Strycharczyk, 2015). The policy-making community and public sector researchers have increasingly focused on understanding the processes and factors that empower specific individuals to persist while others abandon their efforts.

Mental health issues have been increasing throughout the UK and are extensively documented (Hubble & Bolton, 2020). There has been a high rise in subclinical distress, low psychological well-being, and psychological illness among university students in the UK (Ansari et al., 2011; Brown, 2016). Evidence from statistics showed higher rates of mental ill-health in which more than one-third of students were faced with severe psychological issues than those disclosed to universities. Macaskill (2012) found that 33.9% of students had experienced a severe psychological problem in which they considered they might need professional assistance, and 21.5% had a current mental health diagnosis. Research indicates that university students, particularly undergraduates, are a vulnerable demographic group (Hubble & Bolton, 2020; Office of National Statistics, 2018; Thorley, 2017; Wynaden et al., 2013). The Higher Education Statistics Agency gathered data from students with various disabilities, including mental health conditions. In the academic year 2018/19, 308,000 students reported having a disability, representing 16.2% of the total home student population. Out of the previously mentioned total, eighty-two thousand (82,000) students reported experiencing mental health issues, with 4.3% identified as home students. The incidence of students reporting mental health issues was 2.5 times greater than in the 2014/15 academic year. It corresponds with the period of the start of many psychological disorders (worry, anxiety, depression) and drug abuse (Brown, 2016; Cooke et al., 2004; Kessler Berglund, Demler, Jin, Merikangas, & Walters., 2007; Macaskill, 2013; Thorley, 2017; UK Royal College of Psychiatrists, 2011). University authorities and the government must implement appropriate measures and contingency plans to address crises and dangers related to psychological discomfort and disease. The ongoing research programme adopts a positive psychology framework to investigate the factors influencing students' well-being and treatments aimed at improving psychological well-being within the student population.

Positive psychology entails researching beneficial aspects of life, including creativity, life satisfaction, positive emotions, confidence, mental toughness, resilience, empathy, humour, and compassion. The objective is to redirect psychological research and practice towards individual resources, strengths, and positive dimensions of experience. The emphasis on individual resources and strengths within positive psychology indicates a potentially effective approach to enhancing overall mental health. It aims to cultivate inherent human potential and enhance human strengths and virtues (Lomas, Hefferon, & Ivtzan, 2014; Seligman, 2018). Hence, there is an emphasis on emotions, human strengths and virtues, human flourishing and

flow, and positive traits (Lomas, Hefferon, & Ivtzan, 2014). The general purpose of positive psychology is to focus on living a meaningful and purposeful life (Steger, Frazier, Kaler, & Oishi, 2006) or a sense of connection to something greater than oneself (Williams & Harvey, 2001). Consistent with this perspective, Seligman (2012) highlighted thus: "I now think that the topic of positive psychology is well-being, that the gold standard for measuring well-being is flourishing, and that the goal of positive psychology is to increase flourishing" (p. 13). This new field of psychology is gradually gaining ground in mental health settings (Fredrickson, 2016; McCarthy, 2011; Huppert, 2018; Ryff, 2018; Seligman, 2012; Vast, Young, & Thomas,2010).

Mental health is integral to human well-being (Ryff, 2018; Seligman, 2018) and plays a vital role in our daily lives. However, mental health seems to be neglected compared to how we take care of our physical health. In recent years, researchers, healthcare sectors, populists, the royal family (United Kingdom (UK) monarch) and policymakers have increased their interest in the concepts of mental health or positive psychological well-being (Huppert, 2018; Office for National Statistics 2013; Royal Society for Public Health, 2013; Ryff, 2018; Seligman, 2018; World Health Organisation, (WHO), 2018). WHO (ibid) explained mental health as a state of well-being in which everyone recognises their potential, can handle the everyday stresses of life, works effectively, and possesses the capacity to impact society. The WHO (2018) conceptualisation acknowledges the essential dimensions of mental health. The three main points from the definition include well-being, functioning effectively as an individual, and being effective in the community. WHO's definition of mental health emphasises the positive aspects of mental health, which implies positive functioning and psychological well-being. The inability to discover or recognise one's potential and withstand stress could lead to mental health issues, which invariably lead to an increased rate of drop-out, suicidal thoughts, poor academic performance, psychological disorder, low motivation to study, and disordered eating, specifically among university students (Ramsdal, Bergvik, & Wynn, 2018). Consequently, experiencing positive mental health is considered a central criterion of high levels of psychological well-being (Ryff, 2018; Seligman, 2018). Mental health is also defined as the absence of psychological illnesses such as schizophrenia, anxiety or depression (Seligman, 2012). However, psychological illness signifies only part of the outcomes from a psychological viewpoint on psychological well-being. It is vital to study psychological outcomes in mental health beyond pathological outcomes by including the study of optimal mental health

(Seligman, 2018). For this study's purpose, mental health is described as a positive psychological outcome that is more than the absence of mental illness.

Positive mental health has three core components: psychological well-being (positive individual functioning in terms of self-realisation), emotional well-being (happiness and life satisfaction), and social well-being (being positively effective in society in terms of adding social value) (Westerhof & Keyes, 2010). The current programme of research focuses on psychological well-being. Furthermore, it emphasises developing personal resources, strengths, and positive aspects of experience. Psychological well-being covers some parts of the human being, such as positive emotions (Lyubomirsky, King & Diener, 2005), happiness (Seligman, 2018), and general well-being (Ryff, 1989; 2018).

 Psychological well-being is a crucial component of mental health. It is important to note that many studies on well-being have concentrated on the negative aspects of life, often called ill-being. However, we should prioritise cultivating a flourishing and fulfilling life. As Carr (2004, p. 36) points out, psychological well-being (PWB) represents the realisation of one's complete psychological potential. Various perspectives exist on defining psychological well-being, which is viewed as a multidimensional construct (Ryff, 2018). This concept encompasses more than just medical and biological aspects (Ryff, 2018). Ryff identified six key elements of psychological well-being grounded in both empirical and theoretical research. The model is categorised into six theoretically motivated dimensions, which comprise the following: self-acceptance (accepting one's present and past life); autonomy (ability to think and make decisions independently with self-determination); positive relationship with others (having satisfied and high-quality relationships with the ability to love). Furthermore, environmental mastery (possessing the ability to manage one's life and being emotionally stable with any situation), having a purpose in life (to be confident and believe that one's life is meaningful), and finally, personal growth (open-minded to new experiences and using the challenging time as an opportunity to grow and develop); are good skills of psychological well-being (Ryff, 2018). Like other psychological work on eudemonic well-being, Ryff focuses primarily on optimal functioning regarding individual fulfilment (Ryan & Deci, 2001). It suggests that people with positive psychological well-being can control many aspects of their lives. They are not stressed out quickly because they can master their environment and encourage themselves to work effectively and live to make their lives meaningful by discovering their potential.

Psychological well-being has been described differently by researchers. It has been defined as the personal experience of individuals, particularly in achieving goals, fulfilling potential in life and happiness, and deriving pleasure from participating in exciting activities. Ryff (2018) refers to psychological well-being as the level at which individuals feel they take meaningful control of their actions and lives. However, recently psychological well-being issues have been increasing and are more common among university students. In contrast, some are unable to maintain and enhance their well-being. The concept of mental toughness extends our understanding of psychological well-being. Mental toughness is an excellent personal resource that could improve psychological well-being due to its positive psychological traits. Understanding and developing mental toughness is a superb way of enhancing psychological well-being when faced with many social demands.

Mental toughness signifies an 'umbrella concept' that incorporates most resilience-orientated ideas, if not all. It is an umbrella term for describing positive personal characteristics with the best performance in dealing with stress, distractions, and even adversity (Etnier, 2009; Gucciardi, Gordon, & Dimmock, 2009a). As a positive psychological trait, mental toughness enables individuals to cope with pressure, stress, and challenges, specifically during a transitional period (Clough & Strycharczyk, 2015) and daily life activities. According to Clough et al. (2002, p.38),

 '*Mental toughness describes the capacity of an individual to deal effectively with stressors, pressures and challenges, and perform to the best of their ability, irrespective of the circumstances in which they find themselves*'.

Mental toughness has four components, discovered by Clough and Strycharczyk (2012). These elements are called the 4Cs of mental toughness: confidence, commitment, control, and challenge. Mental toughness measures resilience and confidence that could predict performance in sports, health, the workplace, and education (Clough & Strycharczyk, 2012). Mentally tough individuals seem more resilient in stressful situations and flourish during Challenging times (Hunt et al., 2014). It implies that there is a relationship between mental toughness and resilience. Mental toughness is an inner strength which can be used for personal development. The importance of mental toughness has been highlighted in positive psychology, specifically psychological well-being (Clough & Strycharczyk, 2012; Stamp et al., 2015). Stamp et al. (2015) underlined the relationship between psychological well-being

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and positive psychological traits like mental toughness. It suggests that it can be used as a transformational tool. While many studies have been done on mental toughness concerning sports domains, little is known about mental toughness and psychological well-being among university students.

Life skills are defined as "*those internal personal assets, characteristics, and skills, such as goal setting, emotional control, self-esteem, and hard work ethic, that can be facilitated or developed in sport and are transferred for use in non-sport settings*" (Gould, Daniel, & Carson, 2008, p. 60; Holt et al., 2016).

These non-cognitive attributes, including mental toughness, emotional regulation, and emotional expression, are crucial for university students' well-being and future success (Sackett & Gano-Overway, 2017; Ueno & Nakagomi, 1998). Non-cognitive skills represent individuals' "patterns of thought, feelings and behaviour", which may continue to develop throughout one's life (Bloom, 1964; Borghans et al., 2008; Jones, Greenberg, & Crowley, 2015). Students' development and nurturing of non-cognitive skills should be encouraged in educational settings. Developing non-cognitive skills in academic programmes can give students the tools to shape their future and positively impact others (Portela-Pino et al., 2021).

Emotional regulation and expression are also essential non-cognitive skills for psychological well-being. Emotional expressivity, described as the "behavioural changes (facial, postural) that typically accompany emotion," is a multidimensional concept regarded as a stable trait that includes positive, negative, and impulse strength components (Gross & John, 1997, p.435). Emotional expressivity has three facets: positive, negative, and impulse strength. The three facets form a hierarchical model of emotional expressivity. The first two components are similar to the two primary dimensions of affects: positive and negative affect found in previous studies (Tellegen, 1985; Watson & Tellegen, 1985). The third one can be described as the general strength of emotion-response tendencies. The inability to regulate or express emotions can negatively impact an individual's psychological well-being. (Clough & Strycharczyk, 2015; Guccardi, Hanton & Fleming, 2017). Emotion-expressive behaviours are presumed to be influenced by the interplay between an individual and their environment and the individual's characteristics (King, & Emmons, (1990).

Education should promote students' psychological well-being, not just academic success. Cognitive skills, such as intelligence and achievement, interact with non-cognitive skills, such

as self-regulation, attitudes, and motivation, to enable success in school and the workplace (Jones et al., 2015). Substantial differences in non-cognitive skills have been found between those who graduate from high school on time and those who complete a general equivalency diploma, with the former group demonstrating better adult and economic outcomes. Developing non-cognitive skills, including mental toughness, emotional regulation, and emotional expression, should be a key focus of academic programmes, particularly at the university level. By fostering these skills, educational institutions can better prepare students for success in both academic and non-academic settings, ultimately contributing to their overall well-being and positive impact on society (Frantz et al., 2022; Jones et al., 2015).

Maintaining students' psychological well-being has become an increasing concern in recent years. The challenges faced by students, such as high levels of stress and the onset of mental health issues, have been well-documented (Denovan & Macaskill, 2016). To address these concerns, researchers explored different theoretical frameworks and interventions that could enhance student well-being to solve these problems. Students' psychological well-being can be enhanced through the positive psychological construct. One such construct is Fredrickson's broaden and build theory which suggests that positive emotions can expand an individual's thoughts and actions, eventually developing personal resources and enhancing well-being (Botha, Mostert, Jacobs 2019). Furthermore, research has shown the beneficial effects of positive emotion on psychological resilience and psychological well-being (Fredrickson, 2016; McCarthy, 2011; Vast et al., 2010). Discrete positive emotions, such as contentment, interest, pride, love, and joy, broaden people's momentary thought-action repertoires and build long-lasting personal resources (social, physical, intellectual, and psychological) (Fredrickson, 1998; 2001). This implies that positive emotions enhance our ability to be more creative, play, imagine future achievements, and explore new opportunities. Personal resources developed through this process guarantee our continual existence. The experience of positive emotions is hereditary and encoded, similar to negative emotions. When they are naturally selected, they become a part of human nature (Fredrickson, 2001). However, their value appears questionable when positive emotions are measured compared to negative emotional standards. Darwin's Theory of Evolution posits that negative emotions enhance survival probabilities by establishing a consistent and identifiable thought-action tendency. Situations involving life or death, along with fear associated with the urge to escape, contribute to the consideration of a particular set of behavioural choices (Fredrickson, 2001). Positive emotions exhibit lower

precision and differentiation. The study of positive emotion has led to increased interest in notions of optimal human functioning and psychological well-being (Cloninger, 2006; Fredrickson & Joiner, 2002; Linley et al., 2006). Fredrickson (2016), quoted in her article, "Cheerfulness is the best promoter of health, and is as friendly to the mind as to the body". – Joseph Addison (English essayist, poet, and dramatist; 1672–1719). Regular engagement in positive emotions and the mitigation of negative emotions have been associated with reductions in major depressive disorders (Geschwind et al., 2020) and the remission of depressive symptoms (Fredrickson et al., 2008b).

For decades, ancient wisdom has supported the notion that positive emotions suit people's health. A Swedish proverb has it that "a good laugh makes you healthy", and the Holy Bible equally states that "The gladness of the heart is the life of man, and the joyfulness of a man prolongeth his days." (Ecclesiasticus. 30:22). Similarly, Shakespeare (1623) opined that "mirth and merriment … bars a thousand harms and lengthens life". This folk wisdom has been supported with empirical evidence. Fredrickson (2016) confirms that positive emotions are a buffering mechanism, effectively solving negative emotions and poor health issues. Furthermore, it contributes to thriving rather than mere survival, facilitating flourishing in the present and future (Hefferon, 2013). During the COVID-19 pandemic, cultivating positive emotions was essential for thriving rather than merely surviving. Positive emotions can mitigate the extended cardiovascular effects of negative emotions and stressors (Fredrickson et al., 2000; Fredrickson et al., 2017; Kraft & Pressman, 2012). It functions as a form of energy resistance to adversity (Cohn et al., 2009; Galatzer-Levy et al., 2013; Ong et al., 2006; Tugade & Fredrickson, 2014).

A plethora of studies on positive emotion has resulted in heightened interest in concepts of optimal human functioning and psychological well-being (Cloninger, 2006; Fredrickson & Joiner, 2002; Linley, Joseph, Harrington, & Wood, 2006). Studies indicate positive emotions contribute to psychological resilience and well-being (Fredrickson, 2016; McCarthy, 2011; Vast et al., 2010). The daily experience of positive emotions and a reduction in negative emotions are associated with decreases in major depressive disorder (Geschwind et al., 2011a; Linley & Joseph, 2004) and remission of depressive symptoms (Fredrickson et al., 2008). Fredrickson (2016) asserts that positive emotions operate as a buffer and offer an effective solution to the issues related to negative emotions and poor psychological well-being. Furthermore, it facilitates flourishing rather than simple survival, enabling individuals to thrive

both in the present and future (Hefferon, 2013; Linley et al., 2009). Positive emotions can mitigate the enduring cardiovascular effects of negative emotions and stressors (Fredrickson et al., 2000; Fredrickson et al., 2017; Kraft & Pressman, 2012) and act as a source of resilience against adversity (Cohn et al., 2009; Galatzer-Levy et al., 2013; Ong et al., 2006; Tugade & Fredrickson, 2014). Positive emotions inspire new ideas, thoughts-action repertoires, wider social groupings, more flexible objectives and growth mindsets, and broader visual search designs (Fredrickson, 2018; Fredrickson et al., 2008). Positive emotions spread, boosting all psychological resources (Tugade & Fredrickson, 2007) and correcting or reversing negative emotions. While phenomenologically distinct, positive emotions share the common characteristic of broadening individuals' momentary thought-action repertoires and enhancing their long-term personal resources, encompassing social, psychological, physical, and intellectual domains (Armenta, Fritz, & Lyubomirsky, 2017). This theory claims that the ability of humans to experience positive emotions is an advantage, as these states broaden momentary awareness, which invariably builds personal resources such as physical and psychological well-being. It suggests that positive emotions enhance broadened mindsets. The effect of these broadened mindsets sparks the broadening of an individual momentary thought-action-repertoires and aids in building intellectual, social, and psychological resources. This theory has been supported by empirical evidence (Fredrickson, 2013). Steptoe and Wardle (2012) posited that lifespan is predicted by the frequent experience of everyday good emotions, while also considering the detrimental impact of negative emotions on health (Chida & Steptoe, 2008). These findings correspond with the broaden-and-build paradigm of happy emotions (Fredrickson 1998, 2013). However, it is worth knowing that people seeking positive emotional experiences, on the one hand, do not always succeed; individuals who value happiness to an extreme exhibit poorer psychological well-being (Ford et al., 2014). It is noteworthy that relying too much on pleasant experiences is not always the case. Excessive enjoyment may result in a generation characterised by egocentrism and a lack of empathy, fostering a society steeped in illusion (Wong, 2011). Individuals' endeavours may be counterproductive when attempting to elicit more happy emotions during enjoyable occasions intentionally (Mauss et al., 2011). Conversely, those who deliberately prioritise positivity by seeking circumstances and activities that naturally elicit pleasant emotions enhance their psychological well-being (Catalino, Algoe, & Fredrickson, 2014).

Recent decades have yielded increasing evidence indicating that, in addition to enhancing individual well-being, the experience of positive emotions such as happiness, joy, and contentment provides numerous physical, intellectual, and social advantages (Fredrickson, 2001; Lyubomirsky, King, & Diener, 2005). Research indicates that individuals globally desire more happiness (Diener, 2000; Diener, Suh, Smith, & Shao, 1995). Developing people's level of positive emotion is an essential experiential objective. Consequently, individuals must acquire strategies that boost positive emotions and maintain them over time. From a universal standpoint, positive emotions are typically associated with psychological well-being.

Crust (2009) proposed that further research on mental toughness can expand and enhance individual resources. Mental toughness has garnered significant attention within psychology as researchers investigate the diverse elements that influence a person's capacity to effectively manage challenges and stressful circumstances. New studies on mental toughness should concentrate on expanding and enhancing personal resources, which corresponds with Fredrickson's broaden-and-build theory of positive emotion (Fredrickson, 2001; Fredrickson, 2004). The broaden-and-build theory posits that positive emotions, such as play, curiosity, discovery, joy, interest, and contentment, can broaden an individual's thought-action repertoire, leading to the discovery of novel and creative actions, ideas, and social bonds, which in turn build personal resources, ranging from physical and intellectual to social and psychological (Fredrickson, 1998, 2001; Fredrickson, 2004, 2016). This perspective implies that positive emotion can be a valuable tool in enhancing mental toughness, as it may enable individuals to see challenging situations as opportunities for personal development and growth. It implies that positive emotion can broaden mental toughness's 4Cs (confidence, control, commitment, and challenge). Positive emotion may enable an individual with mental toughness to see a challenging situation as an opportunity for personal development, ultimately changing mindsets about certain situations. Therefore, people with a positive emotional state see beyond their challenges and stressful environment and provide different solutions to problems by using the opportunity for personal growth (i.e., growth mindset). The "building" role of the model helps to rebuild personal resources (such as abilities, self-acceptance, personal growth, environmental mastery, autonomy, self-esteem, skills, mental toughness, and social support) that are depleted by stressful, challenging conditions (Fredrickson, 2016). Continual experiences of positive emotion also build social, intellectual, and physical resources (Fredrickson, Tugade, Waugh, & Larkin, 2003; Gable, Gonzaga, & Strachman, 2006; Gable,

Reis, Impett, & Asher, 2004; Waugh & Fredrickson, 2006b). Fredrickson's theory posits that the broaden-and-build model fosters positive emotions to expand individuals' momentary awareness, enhancing personal resources such as mental resilience. Mental toughness is a beneficial psychological attribute, often called personal resources (Vast et al., 2010). The components of mental toughness are personal resources that positive emotions can enhance. Positive emotions can be cultivated through psychological strategies like mindfulness and meditation.

To illustrate the link between positive emotions and psychological strategies like mindfulness, Fredrickson's broaden and build theory aligns with Garland's "Mindfulness-to-Meaning" approach, which suggests that mindfulness practices can foster positive emotions and a sense of meaning, which are crucial for well-being. Garland's Mindfulness-to-Meaning theory posits that mindfulness can enhance one's sense of meaning in life, particularly during challenging periods. It enables individuals to shy away from unpleasant ideas to gain a broader perspective of life that enables the recognition of new possibilities and sources of meaning (Keng et al., 2011). It fosters the recognition of favourable occurrences, enhancing gratitude and general well-being. It also allows individuals to uncover meaning and growth amid adversity and shifts from managing stress to actively fostering a more meaningful life. This theory offers a framework for understanding how mindfulness practices might result in favourable psychological effects, such as enhanced well-being, resilience, and a feeling of purpose. Garland's Mindfulness-to-Meaning theory connects mindfulness research with the quest for meaning, a fundamental concept in positive psychology. Fredrickson's theory underscores the significance of positive emotions in building resources, whereas Garland's theory emphasises the importance of mindfulness in promoting meaning-making, despite adversity. Both viewpoints underscore the need to cultivate positive psychological states for holistic well-being.

Studies have shown support for the application of Fredrickson's broaden and build theory to the "Mindfulness to Meaning" approach in the context of university students' psychological well-being. Research has shown that mindfulness-based interventions can elicit positive emotions, thereby broadening students' thought-action repertoires and fostering the development of personal resources, including enhanced life purpose, self-acceptance, and mastery (Freire et al., 2016; Maynard et al., 2015). Moreover, research has demonstrated the significance of these personal resources for university students' overall psychological wellness,

including their feeling of belonging, emotional regulation, and life satisfaction (Botha et al., 2019; Stevenson, 2020). Evaluating how these personal resources might be incorporated into broader strategic objectives within the university context is essential to optimise the influence on students' psychological well-being.

Fredrickson's Broaden-and-Build Theory also links to meditation. Meditation is one of the ways people can broaden their minds and experience the positive emotions needed to build personal resources. Many researchers have studied meditation for its benefits for enhancing emotional well-being (Dimidjian & Segal, 2015). According to Walsh et al. (2006, p.28), meditation is 'A family of self-regulation practices that focus on training attention and awareness to bring mental processes under greater voluntary control, thereby fostering general mental well-being and development and specific capacities such as calm, clarity, and concentration. Specifically, loving-kindness meditation has been proven effective. Positive emotions such as amusement, interest, joy, awe, contentment, gratitude, hope, pride and love might be increased by loving-kindness meditation (Fredrickson et al., 2008). In the last five decades, empirical studies on loving-kindness meditation have significantly increased (Galante et al., 2014). One of the significant outcomes of loving-kindness meditation is the enhancement of positive emotions. Specifically, loving-kindness meditation generated continuous positive emotions, thereby outpacing the hedonic adaptation effect (Diener et al., 2006) because people return to their fixed emotional baseline after a brief happiness change (Fredrickson et al., 2008). It suggests that the hedonic treadmill is based on material things, not joy from the inside. Fredrickson et al. (2017) conducted an intervention programme for nine weeks, cultivating positive emotions with loving-kindness meditation. The result revealed that positive emotions were developing slowly. This gradual progression showed that positive effects of loving-kindness meditation and built resources allow for a more positive experience in the future. Meditation was chosen as the psychological strategy for the study because of its strong link to positive emotions. Moreover, meditation may cultivate mindfulness, enabling awareness and presence in the moment without judgment, which is consistent with Garland's "Mindfulness to Meaning" framework.

1.2 Statement of the problem

Several studies have discovered the relationships between mental toughness and high performance in sports and a broad range of features in athletics and other domains. It has proven successful in sports, occupational settings, and performance domains. Nevertheless, little is known about the relationship between mental toughness and psychological well-being among university students. Gerber et al. (2013) suggest that all aspects of mental toughness are strongly and inversely correlated with perceived depressive symptoms and stress within their two samples (adolescents and young adults). Mental toughness potentially protects students against the negative impact of stress. It is worth noting that Gerber and his colleagues focused more on the measures of illness, psychological disturbance or distress of the mentally healthy among university athletic students. It is apparent that researchers have concentrated on the psychopathology model by being engrossed in reducing illness and paying little attention to wellness. Although, it has been shown that there is a relationship between mental toughness and psychological well-being (Gerber et al., 2013; Stamp et al., 2015). However, most studies on psychological well-being, specifically the study by Gerber et al. (2013), define well-being as the absence of psychological illness.

According to Gray, Lobao, and Martin (2012), there was a notable period when well-being began to receive greater attention. It is pertinent during this uncertain pandemic period when many people can experience anxiety and uneasiness. It is essential to understand the correlates of mental illness and establish positive psychological characteristics that can improve psychological well-being and optimal performance. Stamp et al. (2015) investigated optimal functioning in light of this proposition. She and her colleagues analysed the correlation between mental toughness and psychological well-being, representing a facet of positive human functioning. A connection between these concepts was identified; nonetheless, the research focused specifically on university student-athletes rather than encompassing the entire student population. The existing body of research concerning the association between this positive psychological characteristic, specifically mental toughness, and psychological well-being in university students is notably limited. Consequently, exploring the connections among mental toughness, psychological well-being, and related concepts such as emotional expressivity is essential.

Mental toughness is an advantageous psychological characteristic (Clough & Strycharczyk, 2015). It is regarded as an overarching descriptor for favourable personal attributes that facilitate optimal performance in managing stress, distractions, and adversity (Etnier, 2009). The correlation between mental toughness and psychological well-being has been confirmed (Gerber et al., 2013; Stamp et al., 2015). Stamp et al. (2015) identified the correlation between mental toughness and psychological well-being. As a result, the focus on individuals' psychological well-being has initiated a paradigm shift in mental health from addressing psychological diseases to fostering positive emotions, human characteristics, and virtues to improve psychological well-being (Ryff, 2018; Seligman, 2018). This indicates that psychological well-being is crucial for overall life and health. This study aims to simultaneously enhance psychological well-being and foster positive emotions, human traits, and virtues within people and society. This suggests enhancing everyday lives and promoting talent. Consequently, cultivating mental resilience is crucial for improving psychological well-being in university students. A growing body of research on pleasant emotions has indicated its advantages in enhancing well-being.

Positive emotion is like a catalyst that broadens people's minds to see beyond their challenges, invariably building personal resources like resilience, mental toughness, and psychological well-being (Ryff, 2018). The extensive interest in positive aspects of mental health has led to the development of new scientific constructs and intervention programmes to enhance psychological well-being (Gerber et al., 2015; Mitchell et al., 2011; Stamp et al., 2015). Therefore, the current study aims to evaluate the impact and effectiveness of loving-kindness meditation on positive emotions, mental toughness, and psychological well-being among university students.

As previously mentioned, the transitional period, pressure and tension in daily activities, and the emotional regulation and expression of all students could result in a psychological collapse that could impact general well-being if not adequately addressed. It suggests that university students would benefit from acquiring specific non-cognitive skills. One of the most recent applications of non-cognitive skills has been confirmed as mental toughness (Clough & Strycharczyk, 2015). Therefore, developing non-cognitive features like mental toughness and emotional expression is essential to enhance students' well-being. Building on the issues students are faced with and using a positive psychology approach, the current study focused on understanding the processes and factors that give some individuals the strength to keep going

when others give up. Therefore, study 1 of the current research explored the relationship between mental toughness, psychological well-being, and emotional expressiveness whereas. Study 2 explores the effectiveness of meditation on mental toughness and psychological well-being. Furthermore, Study 3 builds on Study 2 by exploring participants' meditation experiences as a strategy for developing mental toughness. The basis for Study 2 and Study 3 is the importance of a positive emotional state, which can be enhanced through specific interventions.

1.3   Aim of the Study

The primary aim was to examine the impact and effectiveness of meditation on mental toughness, positive emotion, and psychological well-being. The secondary aim was to explore mental toughness and psychological well-being among student populations and the relationship between mental toughness, emotional expressivity, and psychological well-being. We believe that the findings of this study could pave the way for innovative interventions to enhance psychological well-being among university students.

1.4   Research objectives

i. Examine the cross-sectional associations between psychological well-being and emotional expressivity.

ii. Determine the relationship between mental toughness and emotional expressivity.

iii. Determine the relationship between mental toughness and psychological well-being.

iv. Measure emotional expressivity, mediating the relationship between mental toughness and psychological well-being.

v. Measure the effectiveness of meditation on mental toughness, positive emotion and psychological well-being.

vi. Explore participants' experiences of engaging in meditation to enhance mental toughness.

CHAPTER 2

2.1 Background

In this chapter, a detailed exploration of paradigm shifts in mental health and extensive research on psychological well-being is conducted. The key terms defined include emotion regulation, emotional expressivity, psychological well-being, mental toughness and concepts of mental toughness. Additionally, dimensions of psychological well-being and recent research have changed focus from subjective to objective. The development and utilisation of Ryff's and the PERMA Model of well-being (Ryff, 2013; Seligman, 2012) are briefly introduced, and Ryff's choice is justified by its relevance to studying university students. Furthermore, the chapter outlines the explanations and approaches to defining and measuring mental toughness, mental toughness, and psychological well-being. The development of questionnaires to measure dimensions and characteristics of mental toughness in sports, education, and physical activity.

2.2 Emotional regulation

One key aspect of the study of emotion is the concept of emotion regulation. Emotion regulation as a field of study has its roots in early psychoanalytic studies; it has been the primary focus in psychological defences (Breuer & Freud, 1895/1957; Freud, 1926/1959; Freud, 1946). After the work of the pioneers, the concept has also been studied in coping and stress tradition (Lazarus, 1966; Lazarus & Folkman, 1984), attachment theory (Bowlby, 1969; Brumariu, 2015), and self-regulation (Mischel et al., 1989). These early theoretical frameworks laid the foundation for contemporary empirical work on emotion regulation in children (Thompson, 1991; Thompson, 2007) and adults (Gross, 1998b; Gross, 2015). Strategies used to support emotion regulation have been widely researched and evaluated theoretically and empirically (Gross, 2007, 2010, 2011; Gross & Thompson, 2007). Previous studies have shown emotion regulation to be related to coping strategies (De la Fuente, Amate, González-Torres, Artuch, García-Torrecillas, & Fadda, 2020), resilience (Artuch-Garde, 2017), with emotions themselves (De la Fuente, Zapata, Martínez-Vicente, 2016). Learning approaches (Melissa & Yen, 2020) can have a regulating or dysregulating value (Kauffman, 2020).

Emotion regulation can be defined as the process influencing our emotions; eventually, after having them, this would determine how we experience and express them (Gross, 1998b; Gross, 2015, 2017). Another definition of emotion regulation may provide more insight and comprehensive details of these regulatory influences. According to Thompson (1994),

"Emotion regulation consists of the extrinsic and intrinsic processes responsible for monitoring, evaluating, and modifying emotional reactions, especially their intensive and temporal features, to accomplish one's goals" (pp. 27–28).

The definitions of emotion regulation involve both an individual's self-regulatory efforts and the influences of other people's regulations. For example, parents or teachers are assumed to be essential in managing young children's feelings early in life. These emotion regulation processes can either be automatic or effortful, including skills and strategies for experiencing, monitoring, modifying, evaluating, and expressing emotional reactions (Gross & Thompson, 2007; Thompson, 1994). It is vital to note that emotion regulation can sometimes involve controlling the intensity or frequency of emotional states and the capacity to produce and maintain processes. Its focus does not mainly reside in managing negative emotions such as anxiety and anger but also in knowing how to regulate and express positive emotions like contentment and happiness regulation (Gross & Thompson, 2007).

Although it has been mentioned earlier that feelings, mood, and affect would be assumed to be the same as emotion in this study; For easy understanding, emotion regulation is a multidimensional process that develops after some time; it comprises changes in emotion dynamics (Reeck et al., 2016; Thompson, 1990). For example, it involves how responses are related as the emotion unfolds, such as when physiological responses occur without apparent behaviour. Although individuals sometimes try to dissipate their energy to decrease negative emotions, emotion regulation is about decreasing negative emotions and maintaining and reducing negative and positive emotions (Parrott, 1993; Gross & Thompson, 2010). Emotion regulation also involves the control of mood or affect, which can either be conscious or non-conscious. Conscious control can be an active thought process or a commitment to behaviour to control your emotions. This conscious process is known as a coping mechanism. For example, individuals may control their anger or change the hurtful topic. At the same time, non-conscious control signifies thoughts and behaviours that cannot be controlled because of unawareness, such as exaggerating joy when an unpleasant gift is received (Cole, 1986) or

when attention is shifted away from a hurtful event (Boden & Baumeister, 1997; Kross, Ayduk, & Mischel, 2005). For example, some people are not very emotional due to their temperament and personality. Emotion regulation can either be good or bad. For instance, the strategies that allow medical professionals to function successfully (Smith & Kleinman, 1989) may also be the same that nullify empathic pain in bullies (Bandura, 1977).

In sum, emotion regulation consists of various internal and external processes that allow people to respond appropriately to the demands of their environment. These processes also involve various cognitive activities, physiological activities, and behavioural strategies, which are responsible for experiencing, expressing, and modifying one's emotions to achieve a goal. This implies that experiencing and expressing emotion is part of an emotional regulatory system, which could set goals if appropriately managed.

2.3 Types of Emotion Regulation

Gross and Thompson (2007) explain two elementary classes of emotion regulation strategies: antecedent-focused and response-focused strategies in which the situation can be internal or external. Antecedent-focused emotion regulation strategies occur before the emotional responses are generated to regulate the imminent emotional experience (Gross, 1998a; Gross & Thompson, 2007). Gross (2015) outlined the Process Model of Emotion Regulation, which provides a valuable framework for understanding the multifaceted nature of emotional regulation. This model outlines stages, ranging from situation selection to response modulation, where regulation can occur. There are five categories of emotion regulation strategies. The first is situation selection, which involves a decision on whether to choose or not to be engrossed in an emotional-eliciting situation. Second, the situational modification strategy modifies the situation, the stimulus that triggers an emotional reaction, which means its emotional impact changes. Third, is Attention deployment: this strategy involves controlling attention processes (distraction, rumination, worry) or down-regulating emotional responses. Fourth, is Cognitive modification: The strategy involves steps that change the frequency of thoughts or meaning about a specific situation/event, and by doing so, it adjusts an emotional response. This involves either re-evaluating meaning or suppressing ideas related to a situation. The first four are antecedent-focused, and the fifth is response-focused.

Moreover, while many antecedent-focused strategies exist, Gross and Thompson (2007) highlight one response-focused emotion regulation strategy that occurs after generating emotion. This strategy aims to decrease or maintain the experience and expression of emotion. This implies that the response-focused strategy aims mainly to stimulate emotional response tendencies, which is the intensity or duration of one's emotional experience and expression.

Emotion regulation is crucial in shaping how we experience and express our emotions. Many individuals incorporate emotion regulation strategies into their everyday lives, helping them navigate the complexities of their emotional experiences (Gross & Thompson, 2007). Each day, we encounter different stimuli that provoke emotional responses. It is important to note that no strategy exists in a vacuum; they can be classified as adaptive or maladaptive. However, issues arise when a strategy is overused or starts to suppress genuine emotional experiences rather than aligning with personal values and goals (Aldoa, Nolen-Hocksema, & Schweizer, 2010; Barlow et al., 2011; John & Gross, 2004). Excessive use of emotion regulation strategies to control or eliminate the emotional experience seems to cause a wide range of psychopathological conditions such as anxiety disorder, borderline personality disorder, eating disorders, mood disorders and posttraumatic stress disorder (Aldoa, Nolen-Hocksema, & Schweizer, 2010; Barlow et al., 2011; Hayes, Wilson, Strosahl, Gifford, & Follette, 1996; Kashdan, Barrios, Forsyth, & Steger, 2006). This maladaptive behaviour can be described as emotion dysregulation. It refers to the struggle to manage how emotional arousal affects our thoughts, interactions, and actions. Individuals experiencing emotional dysregulation often exhibit inconsistent responses that clash with their goals, social expectations, and how they express their feelings. Research highlights a notable link between emotion dysregulation and issues such as anxiety, eating disorders, and substance abuse (Aldoa, Nolen-Hocksema, & Schwiezer, 2010; Barlow et al., 2011; Hayes, Wilson, Strosahl, Gifford, & Follette, 1996; Kashdan, Barrios, Forsyth, & Steger, 2006). This suggests that those with maladaptive behaviours may find it challenging to maintain healthy relationships and express emotions effectively, which can ultimately lead to mental and psychological illness.

Despite its historical richness, contemporary theory and research on emotion regulation have been conducted mainly from the pathology perspective. Little is known about emotional expression and psychological well-being. Specifically, they are response-focused, the product of emotional regulation. However, researchers (Seligman, 2012; Seligman & Csikszentmihalyi, 2014) emphasised that studies based on pathology should be redirected to

studying human strength and flourishing. This indicates that channelling energy into emotional regulation processes to boost human potential may increase the well-being of individuals and communities (Berenbaum et al., 2003; Mennin & Farach, 2007). Learning to manage emotions is crucial, particularly in how individuals convey them. How we express emotions plays a vital role in emotional regulation, which falls within the broader domain of emotion regulation. This is a broad topic, and it is an emotional mechanism that occurs during the emotional experience; after experiencing the emotional process, the outcome turns out to be the emotional expression of the emotion (Gross, 2015). This suggests that emotion regulation can be described as how individuals consciously or unconsciously influence emotional experience and expression (Gross, 2017). It is worth noting that emotional expression, either positive or negative, depends on emotional regulatory processes. It is, therefore, essential to study emotional expression. There is a link between emotional expressivity and the process model (Gross, 2015) model. Emotional expression is a response-focused strategy occurring after an emotion has been generated and is the research programme's focus.

2.4 Emotional Expressivity

Emotion is an internal experience that everyone encounters. Emotional expression is the outward manifestation of these internal feelings. This expression can occur through verbal communication, body language, facial expressions, or vocal tone. Emotional expression is vital in social interaction, individual adjustment, and therapeutic success (Gross, 2017). Expression of affection in social cues: Parents and children, relatives, friends, and family involve emotions. Gross (2017) highlighted that emotional expression is vital in processing emotions. It is considered necessary to reduce stress generated from negative emotional experiences. Kennedy-Moore and Watson (1999) mentioned that emotional expression depends greatly on individual personalities and the environment. This is determined by how individuals integrate their cognitive and subjective experience, which invariably determines how they express their emotions. This indicates that emotional expressiveness depends on how people engage in cognitive appraisal and expressive suppression. According to Kring, Smith, and Neal (2002, p.14), emotional expressiveness is "the outward display of emotion, regardless of valence (positive or negative) or channel (facial, gestural, vocal)".

Numerous studies have confirmed the positive impact of emotional expression on both mental and physical well-being, and the detrimental psychological effects of suppressing these

expressions (Gross, 2017). When individuals deliberately restrain their emotional expressions despite feeling strong emotions, this is referred to as expressive suppression, which can hinder effective communication. Emotional expression plays a crucial role in social interactions, significantly influencing both psychological health and physical wellness. Therefore, not expressing emotions can be harmful both mentally and physically, ultimately straining personal relationships (Gross, 2017).

Frijda (1986) pointed out, "People not only have emotions, but they also handle them" (p. 401). Individuals control how they feel about certain emotional situations (regulation of feeling) and control of emotional expression in response to emotional situations (how they behave). A misunderstanding may occur when individuals experience an event where the communicators control their emotions in a way they could not predict. However, misunderstandings are reduced if individuals can predict why and how communicators control their emotions. As Gudykunst (1991, p. 24) pointed out, "Communication is effective to the extent that we can minimise misunderstandings". The inability to express emotions effectively during communication could lead to stressful physiological encounters for the individuals who engage in discussion (this could increase the individuals' blood pressure). For example, Butler et al. (2003) showed that if an emotional expression is suppressed, it could reduce communication and hinder a positive relationship with others. It implies that expressive suppression could hinder a positive relationship during communication. Therefore, it is necessary to explore emotional expression to increase effective communication.

Kennedy-Moore and Watson (1999) characterised both the expression and suppression of emotions as significant forms of emotional behaviour, effectively highlighting how these actions serve as precise indicators of one's feelings. These may or may not relate to hidden processes of emotional experience. For example, an individual may not express emotion despite experiencing many emotions because they do not like it or are not allowed to express it. On the other hand, individuals might express themselves extensively while they only experience a slight emotion. It can be concluded that there could be individual differences in emotional expression. Emotional expressiveness acknowledges individual differences in how individuals display their emotions outwardly, and it varies significantly from other modes of affective response.

Emotional expression bridges the gap between our internal experiences and the external world, making it significant in theoretical discussions and practical applications. This expression reflects how individuals communicate, connect with others, and shape relationships in their daily lives. Emotional behaviour is crucial in therapeutic contexts, as it offers valuable insights into individuals' feelings, their emotional management, and their connections with their therapist (Watson & Greenberg, 1995). Additionally, it significantly contributes to a deeper understanding. Safran and Greenberg (1991) pointed out that individuals are frequently encouraged to express their feelings during therapy sessions to help them understand and recognise their emotions. Jenkins, Oatley and Stein (1998) also mentioned that emotional expression is a significant concept in psychological disorders (psychiatric illness). Individuals are encouraged to balance their emotional expression, which invariably leads to better self-understanding and good ways of positively relating to people. For example, Kavanagh (1992) explained that individuals with different psychological disorders could be seriously affected by emotion-based interactions with friends and close family.

Authentically expressing emotions is closely connected to mental strength and psychological health, improving mental well-being and enhancing resilience. (Gross & John, 2003; Lin & Lu, 2018). This is particularly relevant to university students who face significant challenges and changes in identity formation, social relationships, and emotional development. Emotional expressivity is crucial in navigating these challenges, allowing for genuine positive relationships and social networks, effective communication, and healthy stress management (Fredrickson, 2001; Joseph, Linley, & Maltby, 2005). Empirical support emphasises the importance of emotional expressivity in promoting mental toughness and psychological well-being within university student populations (Petrides & Furnham, 2001; Clough, Earle, & Sewell, 2002). The study adopts a positive psychology perspective, emphasising strengths and optimal functioning rather than deficits and psychopathology (Seligman & Csikszentmihalyi, 2000). Emotional expressivity aligns with this perspective, as it represents a valuable skill that can be cultivated to enhance psychological well-being and personal growth. For example, studies have found that expressive writing interventions can improve psychological well-being and reduce psychological distress in students (Pennebaker, 1997). Furthermore, research has shown that students more comfortable expressing vulnerability and seeking social support tend to have higher levels of resilience and academic success (Kross et al., 2014). Therefore, while acknowledging the broader context of emotion regulation, this study prioritises emotional

expressivity due to its direct relevance to mental toughness, psychological well-being, and university students' specific developmental needs and challenges.

The ability to appropriately express positive and negative emotions while managing impulsive responses is key to fostering psychological well-being and mental toughness. This balanced approach acknowledges that not only is it important to express emotions, but the timing, intensity, and context of emotional expression are equally crucial for positive outcomes. Positive emotional expression, such as joy, gratitude, and excitement, enhances interpersonal relationships and promotes psychological well-being. Studies show that expressing positive emotions increases social bonding and life satisfaction (Fredrickson, 2001; King & Emmons, 1990). However, unchecked positive expressivity, particularly when inappropriate to the context, can lead to boastfulness or unkindness, where impulse control plays a crucial role. Impulse control is necessary to ensure that positive emotional expression is context-appropriate. For example, while expressing happiness is generally positive, doing so in a sad situation may cause discomfort for others. Therefore, having the impulse control to modulate one's expression of positive emotions helps maintain positive relationships with people and ensures that the expression is aligned with the situation. Expressing negative emotions —such as anger, sadness, or frustration- is critical in emotional processing, psychological resilience, and mental health (Gross, 1998b). Suppressing negative emotions can lead to psychological distress, reduced well-being, and physical health problems (Gross & John, 2003). Thus, healthy expression of negative emotions is crucial for well-being. However, unregulated negative emotional expression can damage interpersonal relationships and escalate conflicts (Baumeister et al., 2007). Impulse control is essential to prevent impulsive outbursts of negative emotions. It allows individuals to pause, reappraise, and choose how to express their negative emotions constructively rather than react impulsively. For instance, using impulse control can prevent expressions of anger from turning into aggression, thereby protecting social bonds and maintaining psychological resilience.

Expressing emotions involves a delicate balance. The complete suppression of positive or negative emotions can harm well-being. Nevertheless, the unrestrained expression of emotions without regard to impulse control can also have negative consequences. Impulse control allows individuals to find this balance. Rather than suppressing or overexpressing emotions, impulse control helps to regulate when and how emotions are expressed. For example, an individual can express their frustration in a professional setting without losing their temper or show

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excitement in a way that does not overwhelm others. Emotional flexibility, which includes expressing and controlling emotions, is crucial for navigating different social and emotional contexts. Depending on the situation, the ability to switch between expressing and controlling emotions is associated with emotional intelligence and contributes to mental toughness and psychological well-being (Tugade & Fredrickson, 2004).

Mental toughness is often associated with regulating emotions in high-stress situations, such as during competitive sports, high-stakes negotiations, or challenging personal circumstances (Crust & Clough, 2011). While expressing both positive and negative emotions is essential, impulse control allows mentally tough individuals to manage these expressions effectively. For example, in a stressful situation, an individual with strong mental toughness might express concern or frustration but with control over the intensity and timing of these emotions. This way, they would not 'snap' or appear tense to their friends and maintain good social connections. Impulse control enables the individual to remain composed while acknowledging and expressing negative emotions, thereby maintaining resilience under pressure.

In summary, expressing positive and negative emotions is essential for psychological well-being, mental toughness, and interpersonal relationships. However, impulse control is the key moderating factor that ensures emotional expressions are appropriate to the context, socially adaptive and conducive to maintaining mental toughness. Finding the right balance between emotional expressivity and impulse control is fundamental to achieving optimal emotional functioning and psychological well-being. The present study focuses on the outward response of emotional expression situation strategies, which arguably play an important role in psychological well-being. Studies have shown that the inability to express emotion would influence psychological well-being (Patel & Patel, 2019).

2.5 Psychological well-being

Interest in psychological well-being has grown significantly in the literature, highlighting its role as a fundamental aspect of mental health and a key outcome of treatment (Dodge, 2012; Forsman et al., 2015; Rettew & Boardman, 2015; Ryff, 2018; Stratham & Chase, 2010; Seligman, 2012; Wood & Tarrier, 2010). Psychological well-being is an integral part of overall well-being, and the study and assessment of general health are prevalent (Keyes, Shmotkin & Ryff, 2002; Mayer & Krause., 2012; Ryff, 2018). Mental health is the absence of mental disorders and a comprehensive state of mental, physical, and social well-being (WHO, 1946;

2018). This understanding has led to a paradigm shift, moving away from a purely medical approach toward enhancing community health (Collins, 2019; Langeland & Vinje, 2016; Seligman, 2012; Vinje et al., 2016). The paradigm shifts in managing health from an illness treatment pathogenic perspective have shifted towards promoting health and preventing illness (Antonovsky, 1987; Becker, Glascoff, & Felts, 2010; Golembiewski, 2012).

Medical sociologist Antonovsky (1987) developed the concept of salutogenesis, a vital concept in mental health (Farre et al., 2017; Mayer & Hausner, 2015; Mittelmark et al., 2016). Salutogenesis derives its name from the Latin word "*salus*," meaning health, and the Greek word "genesis," which refers to origins. This concept emphasises exploring what fosters health instead of focusing solely on illnesses (Golembiewski, 2012). Antonovsky (1987) rejected the "traditional medical-model dichotomy that separated health and illness". He further described the relationship as a continuous variable, called the "health-ease versus disease continuum". In the same medical field, Idler (1979) stated that an individual can have a disease, yet be unaware of it and act; accordingly, it is also possible for people to feel and act sick without showing evidence of any objectively verifiable disease. In the former instance, there is no illness, though there may be disease. In the latter case, there are undoubtedly illnesses (p. 723). Although the psychological well-being of medical professionals is a partial element, it does not capture the whole of well-being.

Psychological well-being can be understood in several ways. It includes an individual's ability to face challenges (Linley et al., 2009), their overall life satisfaction (Kubzansky et al., 2018), and their perception of stress as manageable (Miglioretti et al., 2008). Other factors like the absence of depression, levels of optimism, life satisfaction, happiness, and morale are also significant (Moore, 2006). Additionally, hope, happiness, and self-contentment contribute to well-being, while hopelessness and quality of life are vital aspects to consider (Archer, Brathwaite, & Fraser, 2005; Gonzalez, Casas & Coenders, 2007). Psychological well-being refers to an individual actively taking control of their life, nurturing a positive perspective towards themselves and their past, engaging in meaningful and fulfilling activities, maintaining healthy relationships with others (Ryff, 2018), and being free from mental disorders (Kiefer, 2008).

Several studies show great interest in understanding psychological well-being factors (Seligman, 2013). According to Diener (1997), psychological well-being is how people assess and value their lives in cognition or affection. Cognition is an evaluation based on information about one's life. The affective domain is a hedonic appraisal guided by feelings and emotions, such as the rate at which people experience pleasant/unpleasant moods in reaction to their lives.

Moreover, people eventually experience moods and emotions that have a positive or negative effect. It is worth knowing that positive and negative effects are seen as separate entities rather than opposite ends of the same continuum (Headey, 2006; Lee & Ogozoglu, 2007; Singh & DuggalJha, 2008; Winzer et al., 2014). Furthermore, Singh & Duggal Jha (2008) emphasised that positive and negative effects are to be seen differently, rather than opposite ends of the same strand as Bradburn mentioned, because both features are "only moderately negatively correlated" (Headey, 2006, p. 2).

The nature of well-being has been based on two traditions. One well-being tradition emphasises hedonic, and the other focuses on eudaemonic well-being (Keyes et al., 2002; Ryan & Deci, 2001; Waterman, 1993). Hedonic well-being comprises interest in life, happiness, and life satisfaction, which is called emotional well-being (Keyes, 2002; 2007). Hedonism was translated from Greek philosophy, which was incorporated by Aristippus (Waterman, 1993). The tradition emphasised the concepts of positive affect, low negative affect, happiness, and satisfaction with life (Bradburn, 1969; Deci & Ryan, 2008; Diener, Lucas, & Oishi, 2018). Its tradition was derived in the 1960s and 1970s in research surveys in the social sciences when researchers started to study the quality of life of Americans from the citizens' view (Andrews & Withey, 1976; Bradburn, 1969; Campbell et al., 1976; Cantril, 1965; Gurin et al., 1960). The researcher aimed to observe the population's well-being and improve the social policies. Presently, there is a plethora of agreement that this type of well-being is a multidimensional concept, which includes life satisfaction (appraisals of life in an emotional term), the presence of positive effects, and the absence of negative impacts (Diener et al., 2018; Westerhof, 2001).

Bradburn (1969) attempted to define well-being earlier in his classic research on psychological well-being. His passion is evident in his research. He shifts his focus from diagnosing psychiatric conditions to examining how individuals respond to and cope with the stressors of their everyday lives. Bradburn emphasised the crucial significance of psychological well-

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being, describing it as happiness. He relates his work to Aristotle's idea of eudaemonia, which is now interpreted as well-being. Aristotle considered well-being to be the primary goal of all human needs. Bradburn's study was based on the difference between positive and negative affect.

Furthermore, he mentioned happiness as the balance between positive and negative affect. His model identified that: "an individual will be high in psychological well-being in the degree to which he has an excess of positive over negative affect and will be low in well-being in the degree to which negative affect predominates over positive (Bradburn, 1969, p. 9)". However, Ryff (1989a) critiqued Bradburn's work for not defining the fundamental structure of psychological well-being.

Moreover, positive and negative affects are the primary emphasis (Diener et al., 2018). There have been discrepancies in the independence of positive and negative affect; this has been related to the failure to distinguish between the frequency of affect and the intensity (Diener et al., 2018). Positive and negative affect frequencies relate negatively, while intensity associations are relatively positive. These inconsistent associations were said to suppress the association between positive and negative affect, thus forming an impression that the concepts are independent. Frequency has been noticed as a better indicator of well-being because it can be better measured and it is more strongly associated with lasting emotional well-being than intensity (Diener et al., 2018). Although, some researchers have been calling for more validity and reliability measures of positive and negative affects (Watson, Clark, & Tellegen, 1988; Diener et al., 2018). Measurement error confuses the two distinct positive and negative affects (Green, Goldman, & Salovey, 1993; Joshanloo, 2021).

Psychologists in the 1980s and 1990s began to express discomfort with the limited view of well-being offered by the hedonic perspective (Ryff, 1989; Waterman, 1993). They engaged in thoughtful reflection and ultimately redefined well-being to encompass optimal functioning and personal aspirations (Ryan & Deci, 2001; Ryff, 1989). This led to the emergence of a second line of research known as eudaimonic well-being. The concept of eudaimonia traces back to Aristotle, who believed that true fulfilment lies not in mere happiness, but in an individual's realisation of their potential—a crucial aspect of living a good life (Rogers, 1961; Ryff, 1989; 2018; Waterman, 1993). Humans' ability to function and develop enhances them to discover and fulfil their potential, build strength during challenges, and flourish. It suggests

that in eudaimonic tradition, an individual with psychological well-being is believed to realise the true potential, make the world a better place, strive to implement goals, and make the most of their talents and capacity.

Despite various definitions of psychological well-being, Ryff (1989a; 2018) recognised that the absence of theory-based formulations of well-being is confusing. There is a deficit in defining the essential features of psychological well-being. In support of this view (Forgeard, Jayawickreme, Kern, & Seligman 2011, p. 81) state that "the question of how well-being should be defined (or spelt) remains largely unresolved, which has given rise to unclear and very broad definitions of well-being".

Thomas (2009) argued that well-being is

 "intangible, difficult to define and even harder to measure" (p. 11).

Psychological well-being is a multidimensional construct (Diener et al., 2018; Ryff, 2018). Therefore, the range of dimensions has created a *'puzzling and contradictory research base'* (Pollard & Lee, 2003, p. 2).

Although, the various constructs in defining psychological well-being have created a "*confusing and contradictory research base*" Pollard & Lee (2003, p. 2).

Researchers believe well-being is a multi-faceted concept (Dodge, 2016; Diener et al., 2018). This implies that psychological well-being can be defined as hedonic and eudaimonic functioning; this depends on the perspectives of the individual researchers. Marks and Shah (2004) clarify what is considered well-being in their manifesto:

Well-being is more than just happiness. Along with feeling satisfied and happy, well-being means developing, being fulfilled, and contributing to the community (2004, p. 2).

In support of this view, Seligman (2012) opined that the concept of 'happiness' is an awkward construct that hides the true, complex nature of human flourishing. He changed his perception of positive psychology as being happiness to human flourishing. He further explained that the topic of positive psychology is well-being. The standard for measuring well-being is flourishing, and positive psychology aims to increase flourishing. It indicates that well-being is about happiness and living a meaningful, purposeful, satisfactory, quality life, withstanding

stress, and flourishing during difficult times (Seligman, 2012). It suggests the ability to adapt and face challenges, known as well-being.

In recent years, there has been a growing interest among researchers in the positive aspects of human functioning and well-being (Dodge et al., 2012; Duckworth, Steen, & Seligman, 2005; Linley & Joseph, 2004; Linley, Joseph, Harrington, & Wood, 2006; Seligman, 2018). This movement can be traced back to the early concepts of healthy mindedness established by William James (James, 1902). Nearly, 60 years after the study of James, Rogers (1961) discussed well-being in terms of '*the good life*' (p. 186). He believed that each strived to become a 'fully functioning personʿ open to experience, trusts in his/her organism, and leads an increasingly existential life (Rogers, 1961, pp. 187–189). His work has partially influenced the work of Ryff and Singer (2008) in developing core dimensions of psychological well-being (PWB).

Shin and Johnson (1978) defined well-being nearly 40 years ago, stating that it represents "a global assessment of a person's quality of life according to his own chosen criteria" (p. 478). This perspective remains relevant in contemporary literature (Dodge et al., 2012; Dodge, 2016; Rees, Goswami, & Bradshaw, 2010; Stratham & Chase, 2010). The World Health Organization (1997) elaborated on quality of life as an individual's perception of their standing in life, influenced by the cultural values of their surroundings and their aspirations in selecting goals and ethical considerations. It is a broad range concept that is complex and influences an individual's psychological state, physical health, social relationships, personal beliefs, and relationship to significant features of their environment. However, quality of life has been used interchangeably in various disciplines.

Stratham and Chase (2010) maintain that the term well-being has enabled psychologists to 'de-medicalise' (p. 5) the concept of health. Forgeard and colleagues (2011) 'proposed that some researchers have preferred to ignore the multifaceted nature of well-being and equate it with one construct (often life satisfaction), leading to the unfortunate omission of other important aspects of well-being (p. 81). Focusing solely on quality of life does not fully capture the essence of well-being (Dodge, 2016). Instead of being a comprehensive definition, quality of life is just one aspect of well-being (Dodge, 2016). In recent discussions, various interpretations of well-being have emerged, including the capacity to achieve personal goals (Foresight Mental Capital & Well-being Project, 2008), the experience of happiness (Pollard & Lee, 2003), and

overall life satisfaction (Diener et al., 2018; Seligman, 2018). These highlight the problem researchers have focused on; dimensions or descriptions of well-being rather than definitions (Dodge, 2016). Psychological well-being as a component of general health and well-being has been widely researched and evaluated (Berger, 2001; Dodge, 2016; Ryff, 2018; Johnno, 2019a). According to Huppert (2009, p.137), "Psychological well-being is about lives going well. It is the combination of feeling good and functioning effectively". He concluded that psychological well-being should include enhanced physical health, cognitive and neurological effects, and genetic factors. This suggests that psychological well-being can refer to an individual's overall psychological condition, which comprises emotional, mental, and behavioural consequences (WHO, 2018). Emotions are vital signs of psychological well-being; they motivate behaviour that affects psychological well-being (Gross, 2017). People with high psychological well-being report feeling happy, well-supported, satisfied, and capable in life (Dodge, 2016). Carol Ryff's theory of psychological well-being proposes six key dimensions of well-being: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. Ryff's theory emphasises the importance of these multidimensional aspects of well-being rather than solely focusing on life satisfaction or positive affect, as has been the traditional focus in psychology. Ryff's theory has been widely used in research and is a reliable and valid measure of well-being.

Despite the broad assessments, psychological well-being can be termed a diverse multidimensional concept with unknown exact components (Dodge, 2016; MacLeod & Moore, 2000; Ryff, 2018; Winzer & Van Eeden, 2002). Two prominent theories within positive psychology which attempt to address this are Ryff's theory of psychological well-being and Seligman's theory of well-being, both of which have made significant contributions to the field. The developmental stage of emerging adulthood, which encompasses university students, is a period characterised by significant challenges and changes to identity formation, social relationships, and emotional development (Arnett, 2000). Martin Seligman's theory of well-being, known as the PERMA model, proposes that well-being is comprised of five core elements, which are Positive emotion, Engagement, Relationships, Meaning and Accomplishment:

Positive emotions focus on gratitude, love, serenity, interest, hope, pride, interest, and amusement; engaging with these positive emotions is crucial and enhances individual psychological well-being. Consistently feeling positive emotions can enable individuals to adopt alternative perspectives on their situations, react more constructively, and moderate stress responses to adverse stimuli. Positive emotions encompass three categories: positive affect, positive experiences, and sensations elicited by positive emotions. They convey a feeling of pleasure, gratification, satisfaction, joy, contentment, well-being, and enjoyment. Enhancing the capacity to experience positive emotions is crucial for mental health, contributing to physical resilience and longevity. Positive emotions can expand an individual's perspective, influencing transformation and general contentment.

Engagement means diving deep into activities that challenge and showcase one's strengths. This often leads to a state of flow, where a person becomes entirely absorbed in their task. While everyone engages in different activities, the experience should be fulfilling. It highlights the importance of actively engaging in pursuits that align with personal interests and enhance well-being. This means choosing activities that foster well-being and match individual preferences. Engagement also involves evaluating one's skills and embracing trust, challenge, curiosity, and enjoyment. However, being overly skilled can sometimes lead to a lack of growth.

Positive relationships with people are essential for psychological well-being. This comprises having supportive relationships with friends, family, colleagues, and the broader community. Maintaining and building authentic relationships with people contributes tremendously to life satisfaction and happiness.

The psychology of meaning suggests that some activities can augment our feeling of purpose, which includes altruism, engagement with a higher power, contemplation of abilities and ideas, and application of our pursuit of objectives. This implies finding purpose and believing that life is valuable and that its importance is a key component of well-being. This involves being part of something greater than oneself, such as participating in the community or pursuing a passion that aligns with one's values. That life has value and importance. The theory enables individuals to experience a purposeful life and connect with a greater entity beyond one's self. Promoting meaning involves interacting with one's values and ideas and examining one's desired identity. And the selection of a life purpose. Purpose is an essential component of

life, and it signifies the necessity for direction and meaning. It involves possessing clarity of purpose, intentional life and direction. A life of purpose or commitment aligns with an individual's fundamental values and provides a personal feeling of significance and direction.

Accomplishment implies that setting and achieving meaningful goals contributes to a sense of accomplishment and success. This element focuses on building self-esteem and self-belief by pursuing personal achievements. Achievement is fundamental to human existence, fostering psychological well-being and personal development. This theory builds on Seligman's previous work on authentic happiness but broadens the focus to include not just happiness but a more comprehensive understanding of well-being. The PERMA model has been influential in the field of positive psychology and has been widely applied in research and practice.

Ryff has widely researched the objective understanding of psychological well-being. Ryff's early work (Ryff, 1989; 2018) identified aspects that constitute well-being: purpose in life, the realisation of potential autonomy, environmental mastery, positive relationships with others, and self-acceptance. It suggested that psychological well-being is the tendency for people to accept themselves the way they are (self-acceptance) like most aspects of my personality and establishment of quality and positive relationships with others; the ability to manage intricate environments to suit personal needs and values, the chase of meaningful goals and having a sense of purpose in life, have a sense of autonomy in thought and action they took; continued growth and development as a person, notwithstanding the wide range in the definition of psychological well-being and its measurement. The present study used Ryff's psychological well-being model because Ryff converged the work of ten experts in well-being with other domains in psychology and synthesised them into six dimensions.

The Historical Background to the Concept of Psychological Well-being

The theoretical and research contributions made by Ryff are among the most impactful in the field (Ryff, 1989, 2018; Ryff & Keyes, 1995). Ryff (1989) noted the neglect in the earlier formulations of positive human functioning and psychological well-being functioning. Ryff's (1989) research illuminated the foundational theory of psychological well-being, primarily rooted in the existing literature. First, Clinical psychology provides multiple formulations of well-being, such as Maslow's (1968) conception of self-actualisation, Rogers' (1961) view of the optimal functioning person, Jung's (1933) formulation of individuation, and Allport's (1961) conception of maturity. Second, developmental psychology, specifically Erikson's

(1959) psychosocial stage of development model, includes optimal life-span developmental psychology that provides several illustrations of well-being, considered a series of continuous developmental growth across the life span (Erikson, Jung, Neugarten). Neugarten (1973) describes personality change in adulthood and old age, and Buhler (1935) describes the fundamental life accomplishment predispositions that work toward the realisation of life.

Ultimately, while the discussion primarily focuses on the absence of mental illness, the literature on mental health provides a clear definition of well-being. This includes Jahoda's formulation of positive mental health measures and Birren's concept of positive performance in later life. These perspectives, all together, have had little impact on empirical research on psychological well-being. Jahoda's (1958) six criteria of positive mental health added more meanings to 'eudemonia', such as realising potential through some form of struggle. The merging of these multiple theory-based formulation frameworks of positive functioning was the theoretical foundation for generating a multi-dimensional well-being model (Ryff, 1989, 1995). The research work of Waterman (1984) and Ryff (1989) proposed that well-being was misinterpreted as happiness. As Carol Ryff (1989) suggested, the concept of psychological well-being has shifted focus from a subjective to an objective conception.

Figure 1 Core dimensions of well-being and their theoretical origins
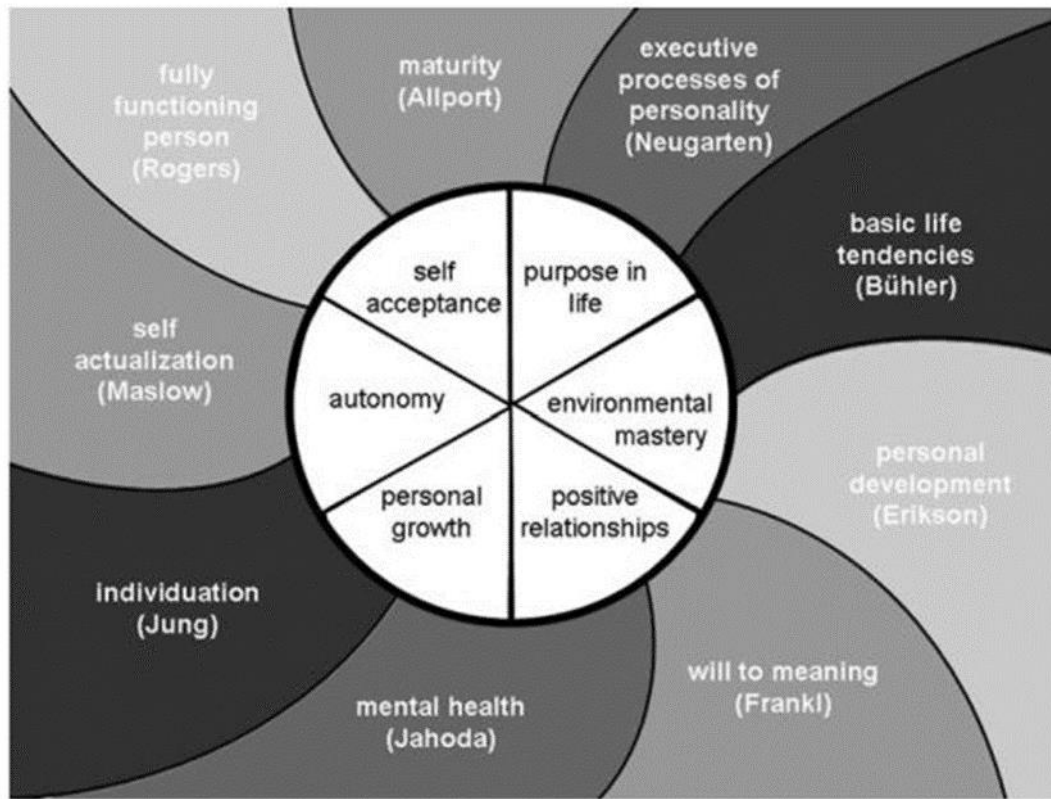
Figure 1: Core dimensions of well-being and their theoretical origins (Ryff's, 1989)

To summarise those mentioned above, Ryff's (1989) research successfully developed a new objective psychological well-being measurement by summarising the theoretical literature on mental health, self-actualisation, maturity, optimal functioning, and developmental life span. Ryff combined these theories into six models: self-acceptance, autonomy, environmental mastery, positive relations with others, purpose in life, and personal growth. Conway and Macleod (2002) referred to this scale as the best objective measure of positive mental health. The work of Ryff (2002, 2007) has undoubtedly made a substantial contribution to the current understanding of psychological well-being. In contrast to previous studies, these studies showed a more rigorous, scientific approach. Ryff (2002, 2007) studied psychological well-being within the guiding framework of ten disciplines from various psychology theories.

Altogether, psychological well-being combines all six of the sub-scales mentioned earlier. Ryff's components of objective psychological well-being are explained separately below for understanding.

Ryff and Seligman's theories share some common elements, such as the importance of positive relationships and personal growth, but they also have some key differences. Ryff's theory focuses more on the multidimensional aspects of well-being, while Seligman's PERMA model focuses more on the specific elements that contribute to well-being (Ryff, 2013; Scorsolini-Comin et al., 2013). Additionally, Seligman's theory emphasises the role of engagement and accomplishment in well-being, while Ryff's theory emphasises autonomy and environmental mastery. Ryff's theory of psychological well-being is of significant relevance and application to university students. University can be challenging and stressful for many students, with demands on their time, finances, and mental health. Ryff's theory can provide a valuable framework for understanding and promoting well-being among this population (Young et al., 1995). Specifically, the dimensions of self-acceptance, positive relations with others, and personal growth are particularly relevant for university students as they navigate the transitions and challenges of university life. Ryff's theory of psychological well-being and Seligman's PERMA model of well-being have important contributions to positive psychology. While these theories share some common elements, they also have distinct differences in their focus and emphasis. Ryff's theory, with its emphasis on the multidimensional aspects of well-being, can be beneficial for understanding and promoting the well-being of university students as they navigate the challenges and transitions of university life (Bonaiuto, Fornara, & Bonnes., 2016). While various models conceptualise well-being, this thesis draws primarily upon Ryff's (1989) model due to its focus on autonomy, personal growth, self-acceptance, purpose in life, and environmental mastery as they transition to new environments, which are particularly relevant to the experiences of university students. Seligman's (2012) PERMA model offers valuable perspectives on engagement and accomplishment. However, it was recognised that the two theories have some common element, which is a positive relationship with people. However, Ryff's model provides a more nuanced understanding of the psychological and social factors contributing to this population's well-being.

Self-acceptance

Self-acceptance is the most frequent aspect of psychological well-being. It is essential to mental health and optimal performance (Ryff, 1989; Ryff & Keyes, 1995). Healthy levels of self-acceptance improve a positive attitude and give satisfaction with life (Ryff, 1989). It has been shown that adequate confidence levels lead to healthy self-acceptance and outstanding achievement (Wann & Church, 1998; Weinberg & Gould, 2007). In addition, positive feedback is essential in maintaining self-confidence and belief. Self-acceptance improved psychological functioning and individual development. It is a key component of self-actualisation (Ryff, 1989, 2018). An individual who scores high on the self-acceptance measure will be assessed as someone who positively accepts the good and bad qualities that make up who they are and accepts their past life (Ryff, 1995). Self-acceptance requires obtaining one's past and present and maintaining direction for the future. It is worth noting that some positive psychological skills involve confidence, belief, self-actualisation, psychological functioning, and personal development. These skills can be improved and developed through a concept known as mental toughness because it comprises confidence, belief, and competence. It is worthwhile to know that mental toughness and its concepts might be developed through psychological skill training and some other psychological concepts. This is an important quality to possess for adapting to university and going through all the daily huddles because if someone knows their good and bad, they could make choices that favour their strengths.

Environmental mastery

Environmental mastery is the ability to choose and control the surrounding and imaginary environment through mental and physical actions (Ryff, 1989, 2018; Ryff & Keyes, 1995). Individuals with a high level of environmental mastery have control over situations (Ryff, 2018). Meanwhile, an individual with a low level of environmental mastery is linked to the inability to control the situation successfully (Ryff, 2018). People's maturity levels reflect how they adjust to diverse situations and how they interact with various people in different situations (Ryff, 2018). These individuals would improve and understand their surroundings and interactions and control cognitive and physiological stimuli.

Furthermore, studies have stated that imagery improves the ability to understand situations and environments and self-awareness (Vago & Silbersweig, 2012). Environmental mastery helps control complex life and environmental situations (Ryff, 1989) and take advantage of

challenging situations. It involves stepping out of the comfort zone, which implies turning challenges into personal development. Environmental mastery is part of well-being; it is the ability to develop and adjust creatively through mental or physical activities. Individuals who score high on environmental mastery can change challenges or adversity to opportunities to grow and manage the environment by controlling external activities (Ryff, 2018). It is a trait that could encourage university students to use time effectively, adapt very quickly to the university system, and capitalise on opportunities. These qualities allow for easy adaptation into the university system.

Purpose in Life

Purpose in life can be an insight into the importance of one's life, comprising reaching and setting goals that contribute to gratitude, leading to a good life (Ryff, 1989/2018 Ryff & Keyes, 1995). It is a period when the individual is considered to have a meaningful and fulfilled life. Mental health involves one's consciousness of purpose in life and greater goal (Ryff, 1989, 2018). Purpose in life helps create direction, thereby eliminating depression by regulating emotions. Setting and achieving goals is essential to attaining success and high performance (Locke & Latham, 2013; MacLeod, Coates, & Hitherto, 2008). Maturity involves having a clear sense of direction and intentionality (Ryff, 1989, 2018). When individuals set realistic goals, concentrate on the goals, maintain focus, and give attention to attaining them, they seek more extraordinary feats for themselves and help others. Achievement and setting goals can be motivational and inspirational (Latham, Ganegoda, & Locke, 2011; Locke & Latham, 2019; Weinberg & Gould, 2007).

This is another essential aspect of well-being. People who scored high on this measure have a sense of direction due to the goals they set for themselves. They count the present moment of their lives as very important and make it meaningful. These individuals accept their past lives; they believe life has a purpose and objectives for themselves (Ryff, 2018). Having a sense of purpose is essential for university students when setting goals for themselves during the transition.

Positive relations with others

Positive relations with others are essential in building a solid and lasting relationship and belonging to a trusted support and communication network (Ryff, 2018; Ryff & Keyes, 1995).

This definition stands to the extent to which an individual "has warm, satisfying, trusting relationships with others; it is concerned about the welfare of others; it is capable of strong empathy, affection, and intimacy; and understands the give and take of human relationships" (Ryff, 1989: p.1072). A good relationship with people leads to understanding others, and poor relations can cause frustration (Ryff, 1989, 2018). The ability to have good human relations is one of the key elements of mental health, with pathology often characterised by impairment in social functioning (American Psychiatric Association, 2000). Communication is essential for social interactions (Miller, 1997; Potgieter, 1997). This implies that the ability to love oneself and others with good positive relationships is one of the good qualities of psychological well-being. A calm and relaxed approach is an attribute of maturity, which leads to improved interactions and selflessness towards others. Positive relations with others lead to empowerment, increased knowledge, and enhanced high performance in a group setting.

Autonomy

Autonomy is independent decision-making and guiding one's behaviour through an internal locus of control (Ryff, 2018; Ryff & Keyes, 1995). Matured high-performing persons would not rely on the standards of others; they have a high level of internal appraisal of themselves and assess themselves with confidence in personal standards and achievements. They do not depend on people's opinions (Ryff, 1989). They focus on their beliefs and are less influenced by other people's ideas. A high level of autonomy implies independence with low distress over self-perception. Individuals need personal insight and objectivity to sustain self-confidence and autonomy. Autonomy is related to self-determined motivation in competition and can be applied to individual development, particularly in educational settings. This concept aligns with Self-Determination Theory (SDT), which posits that autonomy is one of the three basic psychological needs essential for optimal functioning and well-being (Ryan & Deci, 2017). In the context of competition, autonomy support has been shown to promote self-determined motivation, leading to better performance and psychological well-being (Huang & Jeng, 2005). This relationship extends to educational settings, where autonomy-supportive environments can foster intrinsic motivation and enhance students' academic engagement and achievement (Leenknecht et al., 2017).The application of autonomy in individual development, especially in schools, is supported by research indicating that students with higher levels of autonomy tend to experience greater psychological well-being, academic success, and overall satisfaction with their educational experience (Freire et al., 2016). By promoting autonomy in educational

settings, educators can help students develop a sense of self-determination, which is crucial for their long-term success and well-being.

Personal growth

Personal growth is the ability to develop oneself, self-actualise, become a fully mature, functioning human, and accomplish goals (Ryff, 2018; Ryff & Keyes, 1995). To attain high psychological functioning and flourishing, one must continue to engage in personal development in different aspects of life (Ryff, 2018). This involves ongoing problem-solving and transformation, unfolding and expanding one's potential. A high level of personal growth has been linked with continuous development, while a low level is perceived as a lack of growth. An individual with a growth mindset recognises hard work and produces good results and high performance (Dweck, 2005). A growth mindset entails openness to different types of new experiences. Individuals who are humble but confident continuously strive for holistic development and personal growth (Weinberg & Gould, 2007); they usually use goals achieved and both negative and positive performances to improve personal growth. Personal growth is theoretically the psychological well-being dimension closest to eudemonia (Ryff, 1989b/2018).

Personal growth is comparable to self-actualisation and realising one's full potential. People who score high on personal growth might have continuous growth and development. They are open to new experiences, understand that they can improve over time and realise their full potential (Ryff, 2018). Students' personal development depends on their ability to develop and improve over time.

In conclusion, psychological well-being can be summarised as a multidimensional concept which involves individuals' quality of life, opportunities, interests, welfare, functioning, optimum performance, and happiness (Burris, Brechting, Salsman, & Carlson, 2009). Psychological well-being is also a combination of feeling good and having meaning and a sense of self-acceptance, good relationships, and purpose in life. According to Sigmund Freud (1895), it involves "*to work and love".* Psychological well-being in this study meant how individuals scored on the Ruff psychological well-being scale. However, the instrument does not measure all dimensions of well-being.

Psychological well-being is essential in student populations for several reasons. Ryff (2018) explained that an individual with good psychological well-being understands the degree of self-acceptance, having positive relations with others, pursuing meaningful goals with a sense of purpose in life, being autonomous in thought and action, can manage and master their environments to suit personal needs and values as this helps them to continue to grow and develop. Knowing students' psychological well-being can help institutions develop meaningful and intentional programming. Psychological well-being is essential for individuals to live a healthy life; it is a cornerstone of mental health, which has a beneficial aspect on one's life in the university (Molina-García et al., 2011). University life can sometimes be full of psychological stress and chaos. For example, Chao (2012) lamented that university students' stress levels have rapidly increased over the past decade. Therefore, developing an intervention programme is essential to improve students' psychological well-being.

However, there was a misconception about the field; it has often been criticised for overtly focusing on hedonic happiness (Clough & Strycharczyk, 2012). For example, Clough and Strycharczyk (2012) highlighted that positive psychology is about happiness, while mental toughness is about contentment. Perceiving positive psychology as only about happiness is a fallacy; it is about happiness and a well-managed and fulfilling life. Mental toughness is a concept recognised in positive psychology (Rusk & Waters, 2013; Gucciardi, 2017). If studied carefully, contentment is part of positive emotion, a segment of positive psychology. Mental toughness is now a predominant concept within positive psychology (Rusk & Waters, 2013; Gucciardi, 2017). Mental toughness is an umbrella term that indicates positive psychological resources across various accomplishment contexts that promote positive mental health (Lin et al., 2017; Drinkwater et al., 2019; Papageorgiou et al., 2019a, b).

 The Historical Background to the Concept of Mental Toughness

Scientific methodologies have been used to systematically approach the study of mental toughness after the works of Loehr (1986, 1994). Literature from the 1950s to the present day includes various definitions and explanations of mental toughness, mainly related to positive psychological characteristics and using mental skills in performance (Connaughton, Jones, & Hanton, 2007). Jones et al. (2002) emphasised the lack of theoretical clarity surrounding mental toughness. However, Crust (2007) noticed significant progress that some researchers have made concerning the agreement concerning the main features of mental toughness. The elite

performers' perspective and scientific approach were used to search for the definition of mental toughness. Jones et al. (2002) also attempted an explanation based on the essential qualities held by mentally tough performers. Jones et al. (2002) debate the difficulties in defining mental toughness; its flexibility allows other researchers to create additional meanings. Their definitions differ somewhat from those of Clough and colleagues (Jones et al., 2002; Gucciardi et al., 2008; Madrigal et al., 2013). According to Jones and colleagues,

"Mental toughness has the natural or developed psychological edge that enables you to, generally, cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer and, specifically, be more consistent and better than your opponents in remaining determined, focused, confident and in control under pressure" (Jones et al., 2002, p. 211).

As Jones et al. (2002) pointed out, mental toughness has been understood to represent a variety of positive responses to situations, including the ability to persist and refuse to lose hope. These involve commitment and determination (Bull, Albinson, & Shambrook, 1996), overcoming setbacks and poor performances, excellent concentration and focusing abilities, confidence and self-belief, and coping with excessive pressure (Goldberg, 1998; Gould, Hodge, Peterson, & Petlichkoff, 1987), and not allowing adverse situations affect performance and motivation and control (Gould et al., 1987). In support of this view, Fourie & Potgieter (2001) highlight the features of tough athletes as follows: psychological skills, coping skills, cognitive skills, confidence maintenance, motivation level, competitiveness, prerequisite physical and mental skills, team unity, religious convictions and ethics, preparation skills, psychological hardiness, discipline and goal-directedness. In addition, the ability to overcome poor performances and setbacks (Clough et al. 2002, 2012; Goldberg, 1998), not allow challenges or adversities to affect performance (Clough et al. 2002/2012; Gould et al., 1987), and cope with excessive pressure (Goldberg, 1998). The definition identifies the mentally tough people who have been able to cope and perform well under extreme pressure and consistently use skills that allow control, confidence, determination, and focus. Nevertheless, they can also control the various demands of training and their personal lives. Although this might not fully define the meaning of mental toughness because life circumstances might not be dealing with an opponent, it might be dealing with stress, pressure, or unseen adversity. Mental toughness is rooted in the literature on hardiness (Maddi, 2002, 2006).

Hardiness mainly entails three features: Control (believing that an individual has their destiny in their hands, which implies that they can direct the boat of their own life. This means they can influence the outcomes of their life: Challenge (perceiving adversity as an opportunity for personal development, which implies seeing the seed of greatness in adversity) and Commitment (continuous involvement in life irrespective of a stressful situation) (Kobasa, 1979; Maddi, 2006, 2015). Kobasa (1979) stated that the concept of hardiness was generated from a personality nature underpinned by some basic set of beliefs and attitudes that guard against the effects of stress. Hardiness provides essential courage to change experiences of adversity and stress into opportunities for growth and development (Maddi, 2002, 2012). Hardiness is the same concept as mental toughness (Golby & Sheard, 2004; Sheard, 2009). They both tend to protect against the effect of psychological distress while simultaneously improving high performance (Gerber et al., 2013; Sheard, 2012). Hardiness can be described as a personality disposition that provides a buffer against stress (Kobasa, 1979).

While recognising other attempts to understand and define mental toughness, Clough et al. (2001) conducted a qualitative study with athletes. The researchers categorised most factors the athletes recognised as essential for being mentally tough into Kobasa's (1979) hardiness model. However, some elements did not match the three hardiness categories. As a result, Clough et al. (2001) concluded that a mental toughness model needs the fourth category, adding confidence. It was noted in the study that "confidence is an important factor relating to sports performance [and one that] has not been considered as a distinct element in previous models of hardiness" (p. 38). According to Clough et al. (2002), it is defined as

> *Mentally tough individuals tend to be sociable and outgoing; as they can remain calm and relaxed, they are competitive in many situations and have lower anxiety levels than others. With a high sense of self-belief and an unshakeable faith that they control their destiny, these individuals can remain relatively unaffected by competition or adversity* (p. 38).

Furthermore, Thelwell, Weston, & Greenlees (2005) conducted research within soccer to define and understand mental toughness; the researchers removed 'generally' to 'always' from the definition of work by Jones et al. (2002, p. 209). Mental toughness has the natural or developed edge that enables you to: (i) always cope better than your opponents with the many demands (competition, training, lifestyle) that sport places on a performer; (ii) specifically, be more

consistent and better than your opponents in remaining determined, focused, confident and in control under pressure.

Middleton, Marsh, Martin, Richards and Perry (2004, 2005) defined mental toughness as unshakeable perseverance and conviction towards some goal despite pressure or adversity and pointed out 12 characteristics of mental toughness (self-efficacy, future potential, mental self-concept, task familiarity, value, personal best motivation, goal commitment, task-specific attention, perseverance, positivity, positive comparisons, and stress minimisation).

According to Gucciardi, Gordon and Dimmock., (2008), mental toughness is a collection of values, attitudes, behaviours and emotions that enable you to persevere and overcome any obstacle, adversity or pressure experienced but also to maintain concentration and motivation when things are going well to achieve your goals (p. 278) consistently. In the following year, the researchers (Gucciardi, Gordon, & Dimmock., 2009a, 2009b) highlighted the characteristics of mental toughness as comprising the ability to regulate one's emotions and moods in any circumstance to enhance performance, the ability to manage one's attention and focus over extended periods of play involving various distractions; the ability to endure and bounce back from a setback. In addition, an unshakeable self-belief in one's physical ability to perform in any circumstance, an inward limitless desire and commitment to consistently improve one's performance levels and achieve success, an awareness and understanding of the game and the processes required to perform well and physical toughness as well.

Coulter et al. (2010) highlighted that mental toughness is the presence of some or the entire collection of experientially developed and inherent values, attitudes, emotions, cognitions, and behaviours that influence how an individual approaches, responds to, and appraises both negatively and positively construed pressures, challenges, and adversities to achieve their goals (p. 715) consistently. Another researcher described mental toughness as

"unshakeable perseverance and conviction towards some goal despite pressure or adversity"

Middleton et al. (2011, p. 94). While acknowledging different efforts in the definitions above, Clough & Strycharczyk (2012, p. 1) also highlighted that mental toughness is

"the quality which determines in large part how people deal effectively with the challenge, stressors and pressure…irrespective of prevailing circumstances".

In addition, Hardy, Bell, and Beattie (2014, p. 70) mentioned, "mental toughness is the ability to achieve personal goals in the face of pressure from a wide range of different stressors". In reviewing the literature, Gucciardi, Hanton, Gordon, Mallett, & Temby (2015, p. 28) defined mental toughness as a personal capacity to produce consistently high levels of subjective (personal goals or strivings) or objective performance (sales, race time, GPA) despite everyday challenges and stressors as well as significant adversities.

Traditionally, mental toughness is rooted in sports to understand athletes' performance, precisely the way elite sports performers deal successfully with challenges, pressure, and stressors (Bull et al., 2005; Connaughton et al., 2008; Gucciardi, Gordon, & Dimmock 2009a, 2009b; Jones, Hanton, & Connaughton, 2007). It is an essential positive psychological concept used to determine performance in sports (Connaughton & Hanton, 2009; Gucciardi et al., 2009a). Bull et al. (2005) mention that mental toughness has been categorised as a positive psychological trait that can be developed. JoAnn Dahlkoetter, a sports psychologist, states that mental toughness training benefits everybody.

"It appears, therefore, that virtually any positive psychological characteristic associated with sporting success has been labelled as mental toughness at one time or the other" (Jones et al., 2002, p. 206).

Being mentally tough separates the optimist from the pessimist, winners from losers, and persistent people from those who quit. It implies that mental toughness also involves physical and emotional aspects. Being able to control your emotional life effectively may assist people to perform at their prime more consistently. Gould, Griffes, and Carson (2011) proposed that mental toughness is a life skill that can be learned.

In summary, due to these diverse definitions and explanations of mental toughness, "no clear or broadly accepted definition emerged until 2002" (Connaughton et al., 2007, p. 193). Despite a broad and global acceptance of the term, there is still no universal definition of mental toughness with specific reference to a sporting domain. It is worth noting that Clough and colleagues' definition specifically points out some personal behaviours that could be related to an individual's mental toughness (having faith, high self-belief, and being sociable). Although Horsburgh et al. (2009) regarded this definition as a worthy start for other studies, some researchers agree with other authors' definitions (Jones et al., 2007). While Jones and colleagues, with other researchers, use the behaviour and attitude of mentally tough athletes in

their definitions, Clough and colleagues use individual behaviour attributed to sport in defining mental toughness. For example, having an unshakable faith in oneself and belief in one's ability (confidence) is a feature that can be used in non-sport domains. The present study would use Clough and colleagues' definition to relate to human behaviour and well-being. Mental toughness is vital for inner strength (strong inner builder) that needs to be developed. Individuals who score high on mental toughness cannot only remain committed when confronted with stress but are also confident about completing the task and assertive in social situations (Clough & Strycharczyk, 2012).

Mental toughness is a psychological construct, an umbrella term encompassing positive psychological resources. It is a vital concept in the field of sport psychology, applied psychology and performance psychology: mental toughness explains an individual's ability to deal with challenges, adversaries, stressors, and pressure (Bull, Shambrook, James, & Brooks, 2005; Clough & Strycharczyk, 2012; Connaughton et al., 2008; Gucciardi, Gordon, & Dimmock 2009a, 2009b; Jones, Hanton, & Connaughton, 2002, 2007). Mental toughness originated from the sport; Crust (2008) pointed out the importance of psychological features of mental toughness in non-sports settings, where performance is usually measured (military, health, workplace, and educational settings) and is related to successful outcomes (Jones, Hanton, & Connaughton, 2007). As a psychological construct, mental toughness has contributed significantly to three interrelated issues of interest in every aspect of life: performance, well-being, and positive behaviour (Clough & Strycharczyk, 2012). Several studies have shown interest in its psychological importance and its relationship with other psychological concepts such as self-esteem and motivation, coping with stress, psychological well-being, resilience, and a wide range of health-related behaviours (Brand et al., 2014b; Clough & Strycharczyk, 2012; Clough, Crust, 2007; Crust et al., 2014; Dewhurst et al., 2012; McGeown & Perry, 2015; Gerber et al., 2012; Gerber, Brand et al., 2013; Gerber, Kalak et al., 2013b; Gucciardi & Jones, 2012; Gucciardi, Hanton, Gordon, Mallett, & Temby, 2015; Lin, Mutz, Clough, & Papageorgiou., 2017; Stamp et al., 2015; St. Clair-Thompson, Bugler, Robinson, Perry et al., 2015). Crust (2008) stated that mental toughness is about successful outcomes and attaining one's full potential. Mental toughness also represents a broad range of cognitive and emotional processes closely involved in coping with pressure, motivation, unforeseen circumstances, self-esteem, stress, and social settings. It implies that mental

toughness is a series of skills that can be trained. It enhances individual functioning and human flourishing in any situation, specifically in the face of adversity.

Mental toughness models were developed over a decade ago (Clough, Earle, & Sewell, 2002; Coulter, Mallett, & Gucciardi, 2010; Fourie & Potgieter, 2001; Golby & Sheard, 2006; Golby, Sheard, & van Wersch, 2007; Gucciardi, Gordon, & Dimmock 2008; Jones, Hanton, & Connaughton 2002). Clough et al. (2002) developed its model from Hardiness Theory to develop a multidimensional model of mental toughness. In contrast, Gucciardi et al. (2015) drew from stress and personal resources theories to establish a unitary model of mental toughness. Although they differ in some respects, the models share many similarities. For example, self-belief is central to most definitions (Bull et al., 2005; Clough, Earle, & Sewell, 2002; Gucciardi, Gordon, & Dimmock, 2008; Thelwell, Weston, & Greenlees, 2005). Similarly, motivation is core to most (Bull et al., 2005; Gucciardi, Gordon, & Dimmock 2008; Thelwell, Weston, & Greenlees, 2005), as its persistence in achieving goals (Clough, Earle, & Sewell 2002; Fourie & Potgieter, 2001; Gucciardi & Gordon, 2008; Loehr, 1982): The ability to bounce back after setbacks (Clough, Earle, & Sewell 2002; Gucciardi & Gordon, 2008; Loehr, 1982). It is worth knowing that the model developed by Clough et al. (2002) is the most helpful concept related to the skill that needs to be developed in everyday activities to buffer against stressful situations. Mental toughness is similar to psychological concepts like hardiness, grit, and resilience. However, there are also significant differences between mental toughness and these concepts. The characteristics of mental toughness are described in terms of resilience. Resilience refers to coping with stress and adversity, but it is usually considered a process rather than a trait or characteristic (Rutter et al., 2008). Mental toughness is also described as similar to hardiness, a personality disposition that is a resistance resource. These three concepts are interrelated and the concept of grit. While these concepts differ in several aspects, they also share several features. As they have some similarities, mental toughness is different in specific ways from the other three concepts. Mental toughness is a quality that can give inner strength to individuals, groups, communities or organisations.

Mental toughness shares some similarities with resilience in that both concepts promote positive adaptation in the face of adversity. Resilience is "*a phenomenon or process reflecting relative positive adaptation despite the experience of significant adversity or trauma*" (Luthar et al., 2006, p.742).

Mental toughness is different from resilience in two important ways: first, resilience is an extensive construct that comprises a range of protective processes (biological and social factors) and is hence not measured directly but indirectly (Luthar et al., 2006), whereas mental toughness is measurable as a specific set of traits. Second, the concept of resilience presumes the existence of risk in the environment, but mental toughness does not. Mental toughness is related to an individual's reactions to stress and risk taken; it involves an active way to see challenges as an opportunity to grow for personal growth (Gucciardi, 2017). The belief that mental toughness is malleable would suggest that modifying the context in which individuals operate (the university environment) would allow individuals to perform to their best abilities. Mental toughness developed over time through training has some practical implications; training programmes aim to increase mental toughness to improve performance and general well-being. For example, training on aspects of mental toughness, such as self-reflection and goal setting (Crust & Clough, 2011) may substantially encourage attendance and enhance academic performance (St Clair-Thompson et al., 2015).

The dimensionality of mental toughness has become a significant debate. Some researchers highlighted mental toughness as a multidimensional concept (Clough et al., 2002; Jones et al., 2002; Sheard et al., 2009; Coulter et al., 2010), whilst others have proposed that mental toughness unidimensional concept is the most appropriate (Gucciardi et al., 2015). The primary focus of this argument is based on the crucial discussion about the statistical models used in different studies. The dimensional methods produce an acceptable fit model using statistical confirmatory factor analysis (CFA) techniques. The unidimensional method has a better fit, which might come at the cost of reduced bias and, more importantly, a reduced focus for potential interventions.

It has been the concern of some authors, which makes them question the confirmatory factor analysis method in model testing (Clough et al., 2012; Perry et al., 2015). Simplifying a measure to meet arbitrary statistical requirements, such as a specific model fit, may lead to a generic model and score. It is worth knowing that this data-motivated approach leads to arbitrary statistical results. Moreover, if the total score is different elements of the concept that cannot be separated, the potential intervention would be generic, and it may not be targeted. However, the benefit of the multidimensional model is that it can identify the gap because it is specific and could be enhanced through a more targeted intervention. For instance, an individual with low confidence could receive an intervention within that particular concept

area. The many models and theories of mental toughness share some main concepts; these models and theories have resulted in numerous questionnaires. Most of these have a limited validation history, making it difficult to critique them.

The MTQ48 is the most widely used and researched measure, based on Clough et al.'s (2002) 4C's model. Whilst there is still a debate about its suitability in some areas, it can be viewed as the 'standard' measure of MT to date (Clough et al., 2015). To support this view, Weinberg and Gould (2007) mentioned that the prominent model developed by Clough, Earle, and Sewell (2002) offers a unique justification for mental toughness, and the 4Cs model and MTQ48 was developed from the related construct of psychological hardiness. These researchers based their model solely on the existing and well-validated model of Hardiness, as Kobasa (1979) described, rather than building their model only on psychological skills. Clough and colleagues (2002) highlight the limitation of hardiness, which is being unable to take the "unique nature of the physical and mental demands of competitive sport" into consideration (Sheard, 2012: p. 61). Moreover, Clough and colleagues (2002) suggested the inclusion of confidence as a dominant construct of mental toughness. For example, Lane (2014) noticed the importance of an "unshakeable belief in one's abilities" as a relevant aspect of mental toughness. It has been discovered to play a significant role in athletic success.

Researchers emphasised some standard fundamental construct in all the research despite different approaches involving both qualitative and quantitative methods. The conclusions of their report consistently show similar components that include commitment, self-belief, self-motivation, resilience, retaining psychological control under pressure, perseverance, and concentration or focus thriving on competition and challenges (Crust, 2007; Gucciardi et al., 2008). Furthermore, some researchers embarked on qualitative studies (Connaughton et al., 2008; Jones et al., 2007; Gucciardi et al., 2008). Researchers attempt to develop a knowledge base in an emerging area, although previous findings have replicated these works (Fourie & Potgieter, 2001; Jones et al., 2002). Additionally, an over-emphasis on studying the elite and assuming that the gold medallists are more mentally tough than silver medallists seems questionable when other factors determining success are considered. It is worthwhile to know that most of the research regarding mental toughness has not empirically assessed relationships with performance, cognitive strategies, and affective states. The assumption that mental toughness is a key determinant of success, or the difference between good and great athletes, remains dicey. However, if more empirical and relative studies are to be done, as has been

recommended, researchers need to have confidence in the psychometric properties of measurement instruments (Crust, 2008; Gucciardi et al., 2008).

Scholars have developed several measurement scales of mental toughness using quantitative methods. The scale comprises the Mental Toughness Questionnaire 48 (MTQ48; Clough et al., 2002) and its short version, the Mental Toughness Questionnaire 18 (MTQ18 AND MTQ10; Clough et al., 2002); the Psychological Performance Inventory (Loehr, 1986), the Psychological Performance Inventory (Golby et al., 2007). Golby and colleagues (Golby, Sheard, & Lavallee, 2003; Golby & Sheard, 2004; Sheard & Golby, 2006) used the Psychological Performance Inventory (PPI: Loehr, 1986) to measure mental toughness. However, Middleton et al. (2004) found little support for the psychometric properties of the PPI, while the conceptual and theoretical basis of the inventory appears weak. Mental, Emotional, and Bodily Toughness Inventory (MeBTough; Mack & Ragan, 2008); the Sports Mental Toughness Questionnaire (SMTQ; Sheard et al., 2009), the Cricket Mental Toughness Inventory (CMTI; Gucciardi & Gordon, 2009), the Australian Football Mental Toughness Inventory (Gucciardi et al., 2009a), the Mental Toughness Scale (Madrigal et al., 2013), the Mental Toughness Index (MTI; Gucciardi et al., 2015), and the Military Training Mental Toughness Inventory (MTMTI; Arthur et al., 2015). To date, researchers seem to focus on defining and describing mental toughness and the issues around the psychometric properties of mental toughness without exploring the relationship between mental toughness and psychological well-being.

2.6 Conclusion

This chapter comprehensively reviews related literature and studies on emotion regulation, emotional expressivity, mental toughness, and psychological well-being. The evolution of these concepts from historical perspectives to contemporary applications highlights their relevance across various fields. It highlights the importance of balanced emotional expression and regulation strategies in promoting mental health and resilience rather than solely addressing pathology. This implies a paradigm shift in mental health research, moving from a pathogenic to a salutogenic approach that focuses on health promotion and illness prevention. Emotional regulation, encompassing antecedent-focused and response-focused strategies, emerged as a pivotal mechanism in managing emotions and achieving well-being. Emotional expressivity is crucial to emotional regulation, playing vital social interactions, individual

adjustment, and therapeutic success. The literature emphasised balancing positive and negative emotional expression, guided by impulse control for optimal psychological outcomes.

Psychological well-being is a multidimensional construct integrating hedonic and eudaimonic traditions, with key frameworks like Ryff's model and Seligman's PERMA model providing foundational insights. Ryff's six dimensions, self-acceptance, autonomy, environmental mastery, purpose in life, positive relations, and personal growth, were critical to enhancing students' mental health. Mental toughness was also examined as an adaptive psychological trait with diverse applications beyond sports, including education and health. While similar to resilience and grit, mental toughness uniquely involves viewing challenges as opportunities for growth.

The review underscored the importance of interventions focusing on emotional expression and mental toughness to promote student well-being. Finally, the chapter laid the groundwork for understanding the role of these constructs in the broader context of positive psychology and their practical application in academic settings. This synthesis provides a robust theoretical foundation for the subsequent empirical studies in the thesis.

CHAPTER 3

RELATIONSHIP AMONG MENTAL TOUGHNESS, EMOTIONAL EXPRESSIVITY AND PSYCHOLOGICAL WELL-BEING

"Mental toughness is spartanism, with all its qualities of self-denial, sacrifice, dedication, fearlessness, and love".

Vince Lombardi

STUDY 1

3.1 Introduction

This chapter explores the relationship between mental toughness, psychological well-being, and emotional expressivity and examines the potential mediating role of trios of emotional expressivity in this relationship.

3.2 Psychological well-being and emotional expressivity

Studies have shown the importance of emotional experience and expression in everyday life and its potential role in an individual's psychological well-being (Gross, 2017). How different individuals control or manage their emotions is known as emotional regulation, and it is reflected in how they express emotion.

Balzarotti et al. (2014) explored the connection between cognitive emotion regulation and psychological well-being in a study involving 470 adults. Their findings indicated that strategies such as refocusing and positive reframing related to planning were associated with

higher subjective and psychological well-being levels. Conversely, behaviours like rumination and self-blame were linked to diminished well-being. This suggests that individual variations in cognitive appraisal play a significant role in enhancing psychological health. The inability to regulate or express emotions effectively can seriously affect psychological well-being (Gross, 2011). Studies have shown the importance of the experience and expression of emotion in everyday life and its potential role in an individual's psychological well-being (Gross, 2017).

Furthermore, Garnefski, Koopman, Kraaij, and Cate (2009) researched the association between adolescents' cognitive emotion regulation and psychological adjustment. The study participants were 53 adolescents suffering from Juvenile Idiopathic Arthritis. The age range was between 12 and 18 years; 69.8% were females, while 30.2% were males. The results showed that rumination and catastrophising were the most significant predictors of psychological maladjustment.

Haga, Kraft, and Corby (2009) investigated how cognitive reappraisal and expressive suppression connect to subjective well-being. They examined the correlation of these strategies with aspects of subjective well-being, including affect, life satisfaction, and feelings of depression. The study involved 489 university students from three different countries: Australia, Norway, and the United States, including 140 male and 349 female psychology students aged between 17 and 65. Participants completed self-administered questionnaires, and the researchers calculated Pearson's correlation coefficients from the collected data. The findings indicated a significant relationship between greater use of cognitive reappraisal and improved positive well-being outcomes.

In another study, Harrington and Loffredo (2010) explored cognitive strategies as a predictor of well-being. One hundred and twenty-one college students accessed the online version of the Rumination–Reflection Questionnaire, the Satisfaction with Life Scale and the Psychological Well-Being Scale. A multivariate regression analysis was used. The results showed a significant relationship between depressive symptomatology and cognitive self-blame, positive reappraisal strategies and rumination. It was found out that rumination was the highest negative predictor of well-being.

In addition, Karademas (2007) discovered that positive reappraisal and problem-focused coping were significantly related to higher levels of well-being, while suppression was linked to lower levels of well-being. Some other researchers (Gross & John, 2003; Haga, Kraft & Corby, 2009; McRae *et al*. 2012) have found that cognitive reappraisal has been linked to the experience of more positive and less negative emotions with higher levels of life satisfaction and well-being. Similarly, Shiota (2006) conducted a study using a diary study; the results showed that a positive reappraisal was significantly related to subjective well-being than seeking social support and problem-focused coping. At the same time, distraction after a negative event was correlated with a lower level of well-being. It was worth knowing that previous research focused on the relationship between emotion regulation and subjective well-being.

Generally, previous studies have two main limitations. Firstly, studies have considered various strategies, including cognitive, positive appraisal and behavioural forms of coping. While many studies have been done on the relationship between emotional regulation and psychological well-being, little is known about the influence of emotional expression on the six dimensions of psychological well-being, which is yet to be explored. Secondly, other studies focused on the implications of emotion regulation strategies for subjective well-being, specifically by employing measures of individuals' experience of positive and negative affect (Shiota, 2006; Karademas, 2007). However, within the study of positive mental health, several researchers, such as Seligman (2018), claimed that positive functioning is worth studying. While several studies have examined the relationship between cognitive strategies and psychopathological symptoms, little attention has been given to the implications of emotional expression for psychological well-being.

The rapid growth of literature on emotional expression shows that a primary feature of an individual's emotional functioning positively or negatively influences well-being in everyday activities. For example, the inability to express emotion may cause individuals to experience severe negative emotions (anger or anxiety), lesser resilience to stressful activities, social difficulties, and behavioural and health problems (Aldao *et al*., 2010, 2015; Gross, 2007; Moore, Zoellner, & Mollenholt, 2008; Webb, Miles, & Sheeran, 2012). Gross and John (1997) proposed an experiential model of the emotion process. An individual's environmental situations determine the emotional response tendencies; these tendencies then prepare the individual for the behavioural response, subject to some emotion regulation processes.

Emotional expressions are the behaviours that occur from emotional impulses in the experiential model of emotion (Gross & John, 1997). According to Kring, Smith, and Neale (1994), emotional expressivity can be defined as "the degree to which an individual actively expresses emotional experience through verbal or nonverbal behaviours" (p. 934).

An adequately expressed emotion is crucial to psychological well-being (Gross, 2015). The way we express our emotions might influence how we accept ourselves (self-acceptance), being able to make decisions by ourselves and self-determination without people's approval (autonomy)—having a better-quality relationship with people and social interaction (positive relationship) (Ryff, 1989; Gross, 2015). Perception challenges are opportunities to grow (personal development), take charge, and have a sense of control over the external and internal world. That is using the environment for one's value (environmental mastery) and finding meaning in one's life by living an intentional life, which makes life meaningful (purpose in life) (Ryff, 1989, 2018). Thus, the ability to adjust how we experience and express our emotions influences psychological well-being. In summary, research on emotion expression generally enhanced mental health and well-being (Mayer & Hausner, 2015).

Research has been carried out theoretically and empirically to explore the underlying factors contributing to individual and cultural variations in how people express their emotions (Gross, 2015; Gross & John, 1997; Matsumoto, 1990). The structure and domains of emotional expressivity have been examined in some studies (Gross, 2015; Gross & John,1998; Trierweiler, Eid, & Lischetzke, 2002). Furthermore, the benefits of emotional expressivity have been examined, including its impact on social interaction (Friedman & Riggo, 1981) and psychological well-being (Gross & Levenson, 1997). Several tools have also been developed to know the concept of emotional expressivity in individuals, such as the Berkeley Expressivity Questionnaire (Gross & John, 1995), the Affective Communication Test (Friedman, Prince, Riggio, & Dimatteo' 1990), the Emotional Expressivity Questionnaire (King & Emmons, 1999) and the Emotional Expressivity Scale (Kring, Smith, & Neale, 1994).

To sum up, emotional expression is vital for our existence as human beings and our psychological well-being. It is possible that adequately expressing emotion may help improve all six dimensions of psychological well-being. For instance, we need emotion to love and accept ourselves the way we are because emotion is a move of life; we need it to make life

meaningful. The successful expression of emotion helps us sustain and create high-quality relationships.

3.3 Mental Toughness and emotional expressivity

Mutz et al. (2017) examined cognitive reappraisal and expressive suppression using two emotion regulation strategies. Individual differences in emotion regulation strategy mediate the relationship between mental toughness and depressive symptoms. The sample consists of three hundred and sixty-four participants who provided self-reports of their levels of mental toughness, depressive symptoms, and their habitual use of cognitive reappraisal and expressive suppression. The results showed a statistically significant correlation between mental toughness and two commonly used measures of depressive symptoms. There was a small significant positive relationship between mental toughness and the habitual use of cognitive reappraisal. A small significant relationship between mental toughness and the habitual use of expressive suppression was also observed. In addition, a statistical mediation model showed that individual differences in the habitual use of expressive suppression mediate the relationship between mental toughness and depressive symptoms. Moreover, no effect was found for the habitual use of cognitive reappraisal.

Crust (2009) maintains that mental toughness is related to high levels of emotional control, specifically, avoidance of negative emotions on performance. Clough *et al.* (2002) supported this view; the researchers argued that the performance of individuals with high mental toughness remained stable, regardless of whether feedback was positive or negative. While individuals with lower levels of mental toughness depended on the feedback they were given, either positive or negative. However, Crust (2009) examined the association between mental toughness and affect intensity to determine whether athletes usually experienced more or less intense emotions. The participants were 112 sports performers (55 men and 57 women) aged between 18 and 51 years, ranging from recreational to national level in various sports. The result showed no association between mental toughness and affect intensity. The researcher noted that participants, regardless of their levels of mental toughness, did not consistently exhibit more or less intense emotions. This indicates that individuals with higher mental toughness experience emotions with the same intensity as those with lower mental toughness but can manage their emotional responses positively or negatively. Crust (2009) then suggested that new research should be done to understand how athletes with high mental

toughness maintain control and high performance levels in stressful situations. At the same time, studies have been done on the relationship between mental toughness and emotional regulation and affect. Little is known about the relationship between mental toughness and emotional expressivity.

3.4 Mental toughness and psychological well-being

Stamp *et al.* (2015) investigated the relationships between mental toughness and psychological well-being among undergraduate students. The sample consisted of 168 undergraduate students from nine universities in the United Kingdom, ranging from different degree programmes and students from all levels. Questionnaires were completed to assess mental toughness and psychological well-being. The study uses multiple linear regression analyses as a statistical analysis. It was found that components of mental toughness were moderately strong predictors of psychological well-being, with between 35% and 64% of variance explained. Demographic variables, age, gender, and level of the study did not predict PWB.

Furthermore, several studies have researched the relationship between mental toughness and other concepts like psychological well-being, academic performance, military, education and occupation. Valiente *et al.* (2012) highlighted a relationship between negative affect and academic performance, while Hunt *et al.* (2014) pointed out the relationship between positive affect and academic success among male students. Hardy *et al.* (2014) found that mental toughness was associated with complex task learning. These studies could conclude that cognitive performance and academic success may be mediated by mental toughness. In addition, more research needs to be done on the relationship between mental toughness and psychological well-being. While it has been mentioned that mental toughness is a positive psychological construct that can be developed. However, little is known about the relationship between mental toughness and the six domains of psychological well-being.

People experience different types of unpredictable, stressful situations. These unavoidable circumstances comprise various aspects of life, such as crises, challenges, and adverse life events. The continuous change of circumstances could make individuals learn to adjust their behaviour to the demands of daily activities or make them feel distressed (Clough & Strycharczyk, 2015; Masten & Powell, 2016; Olusoga et al., 2010; Ungar, 2012). The need to adapt to life's changing and challenging situations is unpredictable and a simple fact of life (Olusoga et al., 2010). Although it does not mean every stressful situation is terrible, some

stressful situations might lead people to discover their potential by thinking critically about the way forward in their endeavours in life. The inability to handle or manage stressful situations in our daily lives might be detrimental to individual psychological well-being. Mental toughness is one of the positive psychological characteristics that may differentiate two individuals (Clough & Strycharczyk, 2015). Positive psychological traits like mental toughness protect or buffer against life's pressures, stress, and adversities (Crust, 2008; Gerber et al., 2013; Clough & Strycharczyk, 2015).

Clough *et al*. (2002) and Gucciardi et al. (2008) proposed that controlling one's emotions is essential for mental toughness. Clough and colleagues extended their research to other areas outside the domains of sport (education, health, military, social, and workplace) (Clough *et al*., 2012). Concerning theoretical estimates, a higher level of mental toughness was significantly and positively related to a preference for training and instructive behaviour coping (Nicholls *et al.*, 2008; Nicholls *et al.,* 2009; Crust & Azadi, 2009).Organisational success (Marchant, Polman, Clough, Jackson, & Nicholls (2009), Leadership preferences of athletes (Crust & Azadi, 2009), and sporting experience (Nicholls, Polman, Levy & Backhouse, 2009), recovery from a setback (Clough *et al.*, 2002). In addition, mental toughness is related to life satisfaction and self-efficacy (Clough *et al.*, 2002); Personality traits and characters of individuals affect their mental health (Cloninger & Zohar, 2011; Josefsson *et al.,* 2011) and the 'Big 5' personality dimensions (Horsburgh *et al., 2009*). Moreover, other more specific constructs comprise optimism and resilience (Clough *et al.* 2002; Nicholls *et al.,* 2009). The MTQ48 is related to specific psychological measures, including perceived exertion (Clough & Earle, 2001), pain tolerance (Crust & Clough, 2005), injury rehabilitation (Levy, Polman, Clough, Marchant & Earle, 2006),

The combined influence of emotional expression and mental toughness as positive aspects of well-being is yet to be explored. Little is known about the connection between mental toughness, emotional expression, and psychological well-being. Therefore, it is necessary to understand the concept of mental toughness and link it to emotional expression and psychological well-being.

Based on the available evidence, mental toughness may have a protective or restorative function that can improve or maintain psychological well-being, which needs to be explored.

Hence, this study aims to contribute to the gap in the research by examining the relationship between mental toughness and psychological well-being.

Mental toughness, emotional expressivity, and psychological well-being

Human beings are faced with different stressful situations. They experience different types of adverse life events, challenges, and crises, constituting a large part of their lives that cannot be avoided. These adversities negatively affect mental and physical health, which are invariably linked to impairments in educational, social, and occupational performance (e.g., Price *et al*., 2002; Springer *et al*., 2007; Scott *et al*., 2011). Researchers have shown interest in understanding the factors and processes that enable some to persevere when others lose hope. Mental toughness is a positive psychological concept that makes individual differences an element, allowing individuals to deal with hardship, effectively with challenges, and persist under pressure.

Emotional expression, particularly the ability to effectively express a range of emotions, has been strongly linked to both mental toughness and psychological well-being. Research indicates that individuals who can express their emotions authentically tend to have better mental health outcomes (Kring et al., 1994) and demonstrate greater resilience in facing challenges (Leising et al., 2007). Conversely, suppressing emotions has been associated with decreased well-being and poorer psychological adjustment (Gross & John, 1997). Eldeleklioğlu and Yıldız (2020) examined the relationship between emotional expression, psychological resilience, and subjective well-being in two hundred and seventeen (217) university students aged 19 to 25. Data were gathered with questionnaires and scales. The findings indicated a substantial correlation between emotional expression, psychological resilience, and subjective well-being. Nonetheless, no substantial correlation was found between the expression of emotions and subjective well-being. The research indicated that the expression of emotions influenced subjective well-being through psychological resilience. The study outlines the process of examining emotional expressivity within the Process Model, focusing on its role in fostering well-being and mental toughness. It emphasises the theoretical basis for focusing on emotional expressivity, drawing upon theories suggesting it is an adaptive strategy. The study also presents empirical evidence supporting the unique importance of emotional expressivity concerning mental toughness and psychological well-being.

Perry et al. (2015) developed a new measure of individual sporting to validate the Mental Toughness Questionnaire-48. They conducted three studies: Study 1 was designed to assess content validity and propose a model. Study 2 was used to test the factorial validity of the model on an independent sample. Study 3 aimed to assess the factorial validity further using another independent sample and to evaluate construct validity. In Study 1, we developed a 71-item questionnaire. An exploratory factor analysis helped streamline the questionnaire to a 6-factor model, which accounted for 47.70% of the variance in the 33-item scale. In Study 2, confirmatory factor analyses were conducted on the revised questionnaire, yielding a 24-item scale that demonstrated a solid fit with a 5-factor model (comparative fit index = .93, Tucker-Lewis Index = .92, standardised root mean square residual = .05, root mean square error of approximation = .04). Additionally, Study 3 provided further support for the construct validity of the 24-item scale using theoretically relevant measures. Overall, the findings from these three studies affirm the initial validity of the Compliant and Principled Sportsperson ship Scale.

Nicholls, Polman, Levy, and Backhouse (2008) used the MTQ48 to investigate the relationships between mental toughness and coping in a relatively large number of 677 athletes from various sports at different levels. Results revealed many significant relationships between mental toughness and coping strategies. Theoretically, mental toughness predicts a relationship with more coping strategies (mental imagery, thought control, logical analysis and effort expenditure) but less avoidance coping strategies such as distancing, resignation and mental distraction.

Kaiseler et al. (2009) examined how stress appraisal, coping strategies, and their effectiveness relate to mental toughness using the MTQ48 tool. The study involved 482 athletes who had recently faced a significant stressor within the past two weeks. The results underscored the initial hypotheses, indicating that athletes with higher mental toughness experienced lower stress levels and felt a greater sense of control. The researchers concluded that those with greater mental toughness were more likely to rate their coping effectiveness higher, especially when employing problem-focused strategies, while their effectiveness diminished for emotion-focused approaches. Similar findings were reported by Nicholls, Polman, Levy, and Backhouse (2008), who also found a correlation between greater mental toughness and a preference for problem-focused coping over emotion-focused strategies.

St Clair-Thompson, Bugler, Robinson, Clough, McGeown, and Perry (2015) explored the relationship between mental toughness and successful performance among adolescent students aged 11–16 athletic. The study focused on educational performance, school attendance, academic attainment, classroom behaviour, and peer relationships. Study 1 demonstrated a significant relationship between several aspects of mental toughness, precisely control of life and academic attainment and attendance. Study 2 showed a significant relationship between mental toughness, control of life and counterproductive classroom behaviour. Finally, Study 3 revealed a significant relationship between mental toughness and peer relationships. The results showed that mental toughness is a potentially helpful value concept in education.

Crust, Earle, Perry, Earle, Clough, and Clough (2014) investigated how achievement relates to progression among first-year sports students at a UK university. The study involved 161 students in their first year of studying sports. A self-report questionnaire (MTQ48) was used to assess their level of mental toughness. A measure of achievement (year grade) and progression (pass, fail, or re-sit) was also obtained for each participant. The results showed significant positive relationships between mental toughness, grades, and progression. The mental toughness subscales of life control and interpersonal confidence predict academic achievement.

From a theoretical perspective, mental toughness enhances mental health directly or through the promoting adaptation of resilience. Gerber *et al.* (2012) extended the research on mental toughness to study adolescent physical activity and mental health. The purpose of this study was to compare the mental toughness of adolescents and young adults with self-reported exercise, physical activity and recommended levels of physical activity. Two hundred and eighty-four high school students completed the Mental Toughness Questionnaire (MTQ48). They used the International Physical Activity Questionnaire (IPAQ) to report vigorous exercise and moderate physical activity by completing items. The result revealed that male participants reported higher toughness scores than females for most subscales. After controlling for gender, participants with higher exercise and physical activity levels scored higher in most MTQ48 subscales. It was suggested that developing a mindset of mental toughness might be one way that physical activity and exercise can impact an individual's mental health. The researchers concluded that longitudinal and intervention studies should be done to determine the direction of causality.

Furthermore, in a longitudinal study, Gerber et al. (2013a) investigated the relationships between MT, perceived stress, depressive symptoms, and life satisfaction. In a sample of 865 students, both perceived stress and depressive symptoms were associated negatively with the scores on the MTQ18. Moreover, MT was positively related to life satisfaction. It was also found that individuals who adjusted (low levels of stress, few depressive symptoms, and high life satisfaction) scored high on MT. In contrast, maladjusted individuals who had high levels of depressive symptoms, stress, and little life satisfaction tended to have lower levels of MT.

In line with these findings, Gerber *et al.* (2013b) researched adolescents with high mental toughness levels and more resilience against stress. They completed the questionnaire on the level of perceived stress (10-item Perceived Stress Scale), mental toughness (48-item Mental Toughness Questionnaire) and depressive symptoms (Beck Depression Inventory). The sample was a cross-sectional study of two different samples: Sample 1 comprised 284 high school students, and Sample 2 entailed 140 undergraduate students. The results showed that MT moderated the relationship between high stress and depressive symptoms. Specifically, high levels of MT were linked with lower depressive symptoms when stress levels were high.

Brand, Gerber, *et al.* (2014) investigated how more outstanding mental toughness was related to subjectively assessed sleep among adolescents. A higher level of mental toughness was significantly related to better sleep quality, shorter sleep onset latency, fewer awakenings after sleep onset, and longer sleep duration. A higher level of mental toughness was also related to less perceived stress and more minor depressive symptoms. Mental toughness was directly and indirectly related to sleep quality. In sum, adolescents high in mental toughness reported having good quality sleep, sleep schedules, and psychological well-being (Brand, Gerber *et al.* (2014).

Sabouri et al. (2016) examined the association between dark triad traits, mental toughness and physical activity among young adults. The researchers also compared men's and women's scores in the dark triad, mental toughness, and physical activity. A total of 341 adult participants completed three questionnaires that assessed dark triad, mental toughness, and physical activity. It was revealed that Machiavellianism, narcissism, and psychopathy were significantly related to higher mental toughness scores. The dark triad traits and mental toughness were associated with participants being more involved in physical activity. Concerning men and women, participants had lower scores for dark triad traits, both overall score and psychopathy, while no differences were found for both men and women in mental

toughness or physical activity. High mental toughness was related to more significant physical activity by men than women; women have lower mental toughness scores. The researchers concluded that dark triad traits, high mental toughness, and vigorous physical activity were related. These results indicate why successful professional athletes can be brutal.

Furthermore, Stamp, Crust, Swann, Perry, Clough, and Marchant (2015) established relationships between mental toughness and psychological well-being in undergraduate students. The sample consists of 168 undergraduate students from nine United Kingdom universities. The sample comprised participants from different degree programmes and all three years of standard undergraduate study. They completed online questionnaires to assess mental toughness and psychological well-being. The results showed that multiple linear regression analyses found that components of mental toughness were moderate to strong predictors of psychological well-being, with between 35% and 64% of variance explained. In addition, demographic variables such as age, gender, and level of study were not related to psychological well-being.

Researchers have focused on defining and describing MT without exploring the relationship between mental toughness and variables such as achievement level, gender, age, sporting experience, or sport type. The problem that arises from the above is mental toughness and its vital role in enabling performance in the different parts being played in sports and other domains. Despite this, researchers commended mental toughness as a necessary concept in influencing athletes' success (Clough *et al*., 2015). Previous studies have recognised significant positive relations between mental toughness and academic performance.

3.5 Mediation of Emotional Expressivity between Mental Toughness and Psychological Well-Being

Mediation models examining MT, PWB, and EE emphasise the role of positive emotionality as a mediator in enhancing well-being. Studies like those of Fredrickson (2005) and Crust (2016) support the notion that positive emotions function as a pathway through which resilience (as fostered by MT) promotes psychological health. This aligns with findings by Nicholl (2008), which suggest that interventions targeting positive expressivity in mental toughness training programs could further enhance well-being by fostering optimism and emotional control.

The broaden-and-build theory, which posits that positive emotions foster greater resilience by broadening one's cognitive and social resources (Fredrickson, 2005), provides theoretical support for these mediation effects. This theory suggests that MT facilitates PWB through increased positive expressivity, contributing to emotional stability and well-being (Crust, 2009; Gross, 2015).

3.6 Reverse Mediation: Mental Toughness as a Mediator of Positive Emotionality and Psychological Well-Being

Research in positive psychology has increasingly explored reverse mediation models, where MT mediates positive emotionality and PWB. This model suggests positive emotional experiences could foster resilience (MT) over time, contributing to enhanced well-being. Gross and Thompson (2011) argue that frequent positive emotionality builds resilience, thus supporting psychological health. This reciprocal model highlights how MT and positive emotionality interact bidirectionally to support PWB, underscoring the complex interdependencies within the construct.

3.7 Conclusion

This review synthesises research on the interactions between MT, EE, and PWB, drawing on established theories like the broaden-and-build model and empirical evidence that emphasises the interconnectedness of these constructs. By examining MT as a predictor and mediator of PWB, this review highlights the potential for targeted interventions that leverage emotional expressivity and resilience training to improve psychological well-being. Future studies should continue exploring these bidirectional relationships, particularly in diverse populations and across developmental stages, to further elucidate how MT and EE contribute to lasting psychological resilience and well-being.

To date, there are few studies in peer-reviewed literature specifically examining mental toughness in psychological functioning. Stamp *et al.* (2015) investigated the relationships between mental toughness and psychological well-being in undergraduate students. The sample consisted of 168 undergraduate students from nine universities in the United Kingdom, ranging from different degree programmes and students from all levels. Questionnaires were completed Online to assess mental toughness and psychological well-being. The result revealed that multiple linear regression analyses found that components of mental toughness were

moderately strong predictors of PWB. It is worth noting that gender, age, and level of study were not found to predict PWB.

In conclusion, positive psychological traits like mental toughness are stable and can be developed. The joint influence of emotional expression and mental toughness as positive aspects of well-being is yet to be explored. Little is known about the connection between mental toughness, emotional expression, and psychological well-being. More research is currently needed on emotional expression, psychological well-being, and mental toughness. Therefore, it is necessary to understand the concept of mental toughness and link it to emotional expression and psychological well-being. These facts indicate a need for new studies to make effective interventions and improve students' psychological well-being and emotional expression, particularly students' short-term and long-term memory resources. The present study examined the relationship between emotional expressivity and psychological well-being.

3.8 HYPOTHESES

Hypothesis 1

H_1 Psychological well-being is significantly positively correlated with emotional expressivity.

Hypothesis 2

H_1:   Mental toughness is significantly positively correlated with emotional expressivity.

Hypothesis 3

H_1:   Mental toughness is significantly positively correlated with psychological well-being.

3.9 Method

3.9.1 Participants

A total of 292 individuals took part in the survey. Among them, 52 (18%) identified as male, while 239 (82%) identified as female, with 1 participant (0.3%) choosing not to specify their gender. Of the respondents, 284 (96%) were undergraduate students, and 8 (4%) were postgraduate students.

3.9.2 Design of the Present Study

This study used a quantitative research approach with a cross-sectional design to explore the relationship between mental toughness (independent variable), psychological well-being (dependent variable), and positive emotions (mediator). Data were collected through a survey conducted at a single point in time. This design allows for examining how mental toughness influences psychological well-being and the mediating effect of positive emotions. It facilitates the analysis of both direct and indirect relationships among these variables. It also provides insights into the dynamic forces of mental toughness and emotional expressivity about psychological well-being.

3.9.3 Sample size estimate

Statistical power for the current study was estimated using G*Power 3.1.9.2 (Faul, Erdfelder, Lang, & Buchner, 2007). The analysis aimed to ensure a power of .80 or above, a generally accepted threshold for detecting effects (Cohen, 1988). For a cross-sectional design, the sample size was determined to detect a medium effect size (f = 0.25) at a 0.05 level of significance for the key variables of Mental Toughness (MT), Psychological Well-being (PWB), and Emotional Expressivity (EE). The a priori power analysis indicated that a sample of 193 participants would be sufficient to detect these effects, ensuring adequate statistical power while maintaining a balance between the likelihood of Type 1 and Type II errors.

3.10 Measures:

3.10.1 Emotional expressivity

The Berkeley Expressivity Questionnaire (BEQ; Gross & John, 1995) measured emotional expressivity. The 16-item scale was designed to measure an individual's emotional expressivity, with each item answered on a 7-point Likert-type ranging from 1 (strongly disagree) to 7 (strongly agree). The BEQ comprises three subscales: impulse strength (IMP), negative expressivity (NE), and positive expressivity (PE). The impulse strength subscale assesses the strength of the individual's emotional expression; the negative expressivity subscale consists of 6 items, and the positive expressivity subscale consists of 4 items. Previous research has shown that the BEQ total score has high internal consistency and good test-retest reliability (Gross & John, 1997).

In the current study, Cronbach's alpha coefficients were calculated to assess the internal consistency of the BEQ and its subscales. The results in Table 1 show the descriptive statistics and reliability coefficients for the BEQ and its subscales as follows:

Overall Emotional Expressivity: $\alpha = 0.87$

Negative Emotionality: $\alpha = 0.78$

Positive Emotionality: $\alpha = 0.75$

Impulse Strength: $\alpha = 0.78$

The overall Emotional Expressivity scale and most subscales demonstrated good to excellent reliability ($\alpha > 0.75$). The Positive Emotionality subscale showed slightly lower, but still acceptable, internal consistency.

3.10.2 Psychology Well-being

We assessed Psychological Well-Being (PWB) using the 18-item PWB Scale (Ryff & Keyes, 1995; Sirigattiet al., 2009). Three out of the six original subscales were used for this study: Autonomy (three items; e.g., "In general, I feel I am in charge of the situation in which I live"), Personal Growth (three items; e.g., "For me, life has been a continuous process of learning, changing, and growth"), and Self-Acceptance (three items; e.g., "I like most aspects of my personality"). Items were rated on a 7-point Likert scale ranging from strongly disagree (1) to

agree (7) strongly, and some answers were reversed-scored. The PWB Scale and its subscales have been accepted to have good validity and reliability across various cultures (Žukauskiene, Kaniušonyte, Truskauskaite-Kuneviciene, & Malinauskiene, 2015).

In this current study, Cronbach's alpha coefficients were calculated to assess the internal consistency of the PWB Scale and its subscales. The results, as shown in Table 1 were as follows:

Psychological Well-being 0.91

Autonomy   0.71

Environmental Mastery 0.78

Personal Growth   0.79

Positive Relationship 0.78

Purpose in Life   0.73

Self-acceptance   0.77

The overall PWB Scale demonstrated acceptable reliability. However, the subscales, particularly the autonomy subscale, showed lower internal consistency. These lower values suggest caution is needed when interpreting results related to specific subscales.

3.10.3 Mental Toughness

The MTQ48 (Clough et al., 2002) measured mental toughness. The tool consists of a 48-item inventory, which requires response statements on a 5-point Likert scale varying from (1) strongly disagree to (5) strongly agree. The MT48 assesses overall mental toughness and six subscales: Challenge, Commitment, Control (Emotional and Life), and Confidence (Abilities and Interpersonal). The MTQ48 has been widely used to measure mental toughness and has generally been reliable, and it has established concepts and criterion validity (Clough et al., 2002; Perry et al., 2013). Furthermore, Horsburgh et al. (2009) also confirm the independent support for the factor structure of the MTQ48 found using confirmatory factor analysis.

In the current study, Cronbach's alpha coefficients were calculated to assess the internal consistency of the MT48 and its subscales. The overall Mental Toughness scale demonstrated excellent reliability ($\alpha = 0.91$).

The subscales showed varying levels of internal consistency:

Challenge (CHALL): $\alpha = 0.64$

Commitment (COMMT): $\alpha = 0.70$

Confidence (CONFIDENCE): $\alpha = 0.81$

Confidence in Abilities (CFAB): $\alpha = 0.74$

Interpersonal Confidence (CFINT): $\alpha = 0.73$

Control (CONTROL): $\alpha = 0.84$

Emotional Control (CONE): $\alpha = 0.55$

Life Control (CONL): $\alpha = 0.61$

Most subscales demonstrated acceptable to good reliability ($\alpha > 0.70$), except the Control dimension and its sub-dimensions, which showed lower internal consistency. Table 1 presents the descriptive statistics and reliability coefficients for the MT scale and its dimensions.

Table 1 RELIABILITY COEFFICIENTS

Variable	Cronbach's Alpha
Mental Toughness	0.91
Challenge	0.64
Commitment	0.70
Control	0.84
Emotional Control	0.55
Life Control	0.61
Confidence	0.81
Confidence in Own Abilities	0.74
Interpersonal Confidence	0.73
Emotional Expressivity	0.87
Negative Emotionality	0.78
Positive Emotionality	0.75
Impulse Strength	0.78
Psychological Well-being	0.91
Autonomy	0.71
Environmental Mastery	0.78
Personal Growth	0.79
Positive Relationship	0.78
Purpose in Life	0.73
Self-acceptance	0.77

Procedure

Ethical approval was received from the Manchester Metropolitan University ethics committee. Data were collected from MMU and three other universities across the UK. The initial contact was made via online questionnaires. A link was provided to the participant to outline the nature and importance of the present study. Information concerning the survey was emailed to individual students within and outside the researcher's university. Participants wishing to participate in the research were asked to follow an online link to complete questionnaires. The questionnaire takes an average completion time of around 20 minutes. Staff also recommended that willing academics at different institutions distribute the email link, which resulted in a broader range of students from three other UK universities. The data was collected around Dec 2017 towards the end of the year.

Method of Data Analysis

The scales were reversed where applicable and categorised into high (above median score) and low (median score and below) values. Cronbach's alpha was calculated to assess the internal consistency of the scales and their subscales. Cronbach's alpha is a measure of reliability that indicates how closely related a set of items are as a group. A Cronbach's alpha value above 0.70 is generally considered acceptable, suggesting that the items within the scale measure the same underlying construct. Values above 0.80 indicate good reliability, while values above 0.90 suggest excellent reliability, although excessively high values may indicate redundancy among items.

Measures of skewness and kurtosis were used to evaluate the variables' normality using Z-tests. The Pearson Product-Moment correlation coefficient was applied to examine the linear relationships between pairs of variables. Central tendency and dispersion were calculated to describe the study variables, and skewness measures were also analysed.

3.10.4 Mental Toughness (MT)

Twenty-two items that were reverse coded were recorded; scores of the four main scales (challenge, commitment, confidence, and control), as well as four additional subscales (confidence in own abilities, interpersonal confidence, life control, and emotional control), were obtained by calculating the mean of the scores that were reported for the items of each

scale. An overall MT score was obtained by calculating an overall mean score. Table 1 below shows the coding scale for MT and its sub-scales.

3.10.5 Berkeley Emotional Expressivity (BEE)

Three reverse-coded items were recoded; scores of the three scales (negative emotionality, positive emotionality, and impulse strength) were obtained by calculating the mean of the scores reported for each scale's items. An overall BEE score was obtained by calculating an overall mean score. Table 2 below shows the coding scale for BEE and its sub-scales.

3.10.6 Psychological Well-being

Nine reverse-coded items were recoded; scores of the six main scales (autonomy, environmental mastery, personal growth, positive relations, purpose of life, and self-acceptance) were obtained by calculating the mean of the reported scores for the items of each scale. An overall PWB score was obtained by calculating an overall mean score. The table below shows the coding scale for PWB and its sub-scales.

<u>Table 2 CODING CHART FOR MEASURING PWB</u>

Autonomy	Environmental Mastery	Personal Growth	Positive Relations	Purpose of Life	Self-acceptance
1	2	3*	4	5*	6
7	8	9	10*	11	12
13*	14*	15*	16*	17*	18*

*Reverse-coded

Mediation Analysis

To test the hypothesis that individual differences in positive emotions, negative emotions, and impulse strength mediate the relationship between mental toughness (MT) and psychological well-being (PWB), a hierarchical regression analysis was performed using the PROCESS

macro (Release 2.16.3) for SPSS (Hayes & Rockwood, 2016; Hayes, 2022). Following the methodology outlined by Mutz et al. (2017), the PROCESS macro employs an ordinary least squares path analytical framework to assess the direct, indirect, and total effects in mediation models. The research by Baron and Kenny (1986) was one of the fundamental frameworks for testing mediation. Over the years, research has refined their initial work on testing mediation. However, the Baron and Kenny were based on finding the unstandardised coefficients for each relationship and then determining significance using a Sobel test. As the research progresses, Sobel testing has been rejected as a valid means of testing mediation. A bootstrap technique treats the data sample like a pseudo-population and then takes a random sample with replacement to determine if the indirect effect falls within a confidence interval. In this situation, the third variable would intervene in the influence of the two constructs (Hair et al., 2009).

The direct effect quantifies the influence of the independent variable (X: MT) on the dependent variable (Y: PWB). In contrast, the indirect effect assesses how the independent variable affects the dependent variable through potential mediators (M: positive emotions, negative emotions, and impulse strength). This indirect effect was estimated using bias-corrected bootstrap confidence intervals (95%), allowing robust significance testing. Mediation is considered significant if the confidence interval for the indirect effect does not include zero.

The combined direct and indirect effects provide the total effect (Mutz, Clough, & Papageorgiou, 2017). The PROCESS macro employed in this study allows for the estimation of multiple mediation models. Specifically, we used PROCESS Model 4, where:

Y (dependent variable) = Psychological Well-Being (PWB)

X (independent variable) = Mental Toughness (MT)

Mediators = Positive emotions, Negative emotions, and Impulse strength

The mediation analysis was performed using Hayes' PROCESS macro (Model 4), which incorporated 5,000 bootstrap samples to estimate bias-corrected confidence intervals at a 95% confidence level.

RESULTS

Description of Variables

Table 1 describes the scales and their subscales. Scores for Mental Toughness (MTQ1) ranged from 2.06 to 4.63 (M = 3.10, SD = 0.43), while the Challenge subscale ranged from 1.75 to 5.00 (M = 3.38, SD = 0.50). The Commitment subscale had scores ranging from 1.50 to 4.50 (M = 2.91, SD = 0.55), and Control scores ranged from 1.92 to 4.63 (M = 3.11, SD = 0.45). For Emotional Control, scores ranged from 1.40 to 5.00 (M = 3.09, SD = 0.63), and for Life Control, they ranged from 1.20 to 4.80 (M = 3.13, SD = 0.63). Under the subscale Confidence, scores ranged from 1.80 to 4.70 (M = 3.10, SD = 0.45). Confidence in Own Abilities subscales ranged from 1.80 to 5.00 (M = 3.40, SD = 0.51) and Interpersonal Confidence ranged from 1.20 to 4.40 (M = 2.90, SD = 0.55).

For Emotional Expressivity (EE), scores ranged from 2.69 to 7.31 (M = 4.94, SD = 0.71). Negative Emotionality scores ranged from 2.33 to 6.67 (M = 4.45, SD = 0.75), while Positive Emotionality ranged from 3.00 to 7.40 (M = 5.08, SD = 0.83). Impulse Strength had scores ranging from 3.40 to 7.40 (M = 5.54, SD = 0.81).

The Psychological Well-Being (PWB) scores ranged from 2.71 to 6.43 (M = 4.54, SD = 0.65). The subscale Autonomy ranged from 2.67 to 6.67 (M = 4.72, SD = 0.85), while Environmental Mastery ranged from 2.00 to 7.00 (M = 4.52, SD = 0.97). For Personal Growth, scores ranged from 2.00 to 7.00 (M = 4.54, SD = 0.90), and Positive Relationships ranged from 1.67 to 7.00 (M = 4.63, SD = 1.00). Purpose in Life ranged from 2.00 to 7.00 (M = 4.49, SD = 0.92), and Self-Acceptance had scores from 2.00 to 7.00 (M = 4.86, SD = 0.93). Variables with skewed or non-normal distributions, such as Challenge (skewness = 0.38, SE = 0.18) and Commitment (skewness = -0.39, SE = 0.18), underwent a two-step transformation following Templeton (2011) to achieve normality.

Table 3 Descriptive Statistics of the Variables

Variable	count	mean	std	min	25%	50%	75%	max
Mental Toughness	292	3.10	0.43	2.06	2.81	3.09	3.40	4.63
Challenge	292	3.38	0.50	1.75	3.12	3.38	3.75	5.00
Commitment	292	2.91	0.55	1.50	2.50	3.00	3.25	4.50
Control	292	3.11	0.45	1.92	2.80	3.08	3.42	4.63
Emotional Control	292	3.09	0.63	1.40	2.60	3.00	3.60	5.00
Life Control	292	3.13	0.63	1.20	2.80	3.20	3.60	4.80
Confidence	292	3.10	0.45	1.80	2.80	3.10	3.40	4.70
Confidence in Own Abilities	292	3.40	0.51	1.80	3.00	3.40	3.80	5.00
Interpersonal Confidence	292	2.90	0.55	1.20	2.60	3.00	3.40	4.40
Emotional Expressivity	292	4.94	0.71	2.69	4.44	5.00	5.56	7.31
Negative Emotionality	292	4.45	0.75	2.33	3.83	4.50	5.00	6.67
Positive Emotionality	292	5.08	0.83	3.00	4.40	5.00	5.60	7.40

Impulse Strength	292	5.54	0.81	3.40	5.00	5.60	6.20	7.40
Psychological Well-being	292	4.54	0.65	2.71	4.14	4.64	5.00	6.43
Autonomy	292	4.72	0.85	2.67	4.33	5.00	5.33	6.67
Environmental Mastery	292	4.52	0.97	2.00	4.00	4.67	5.33	7.00
Personal Growth	292	4.54	0.90	2.00	4.00	4.67	5.33	7.00
Positive Relationship	292	4.63	1.00	1.67	4.00	4.67	5.33	7.00
Purpose in Life	292	4.49	0.92	2.00	4.00	4.67	5.33	7.00
Self-acceptance	292	4.86	0.93	2.00	4.50	5.00	5.50	7.00

*Test is significant at 0.05 level; **Test is significant at 0.01 level. Significant normality tests imply that the variable does not assume a normal distribution.

Descriptive Statistics

A descriptive statistical analysis was conducted on several variables: the Mental Toughness Questionnaire (MTQ) Total, the Berkeley Expressivity Questionnaire (BEQ) Total, Positive emotion (POS), Negative emotion (NEG), Impulse (IMP), and psychological well-being (WB). The number of participants included in the analysis (N) was 292. Each variable's mean, standard deviation, skewness, and kurtosis are reported below.

MTQ Total: The mean score for MTQ Total was 148.79 (SD = 20.78), with a minimum of 99 and a maximum of 222. The skewness was 0.111 (SE = 0.143), and the kurtosis was -0.073 (SE

= 0.284). The MTQTOTAL has a relatively wide range and moderate variability, with a slight positive skew and a near-normal distribution.

BEQ Total: The mean score for BEQ Total was 78.36 (SD = 13.82), with a minimum of 41 and a maximum of 111. The skewness was -0.111 (SE = 0.143), and the kurtosis was -0.428 (SE = 0.284). BEQTOTAL shows a moderate spread and a slight negative skew, indicating a few lower scores.

POS: The mean score for POS was 21.98 (SD = 3.67), with a minimum of 20 and a maximum of 28. The skewness was -0.654 (SE = 0.143), and the kurtosis was 0.463 (SE = 0.284). POS has a small range with low variability and is moderately negatively skewed, suggesting that most scores cluster toward higher values.

NEG: The mean score for NEG was 24.13 (SD = 6.91), with a minimum of 7 and a maximum of 41. The skewness was -0.149 (SE = 0.143), and the kurtosis was -0.586 (SE = 0.284). NEG shows moderate variability with a nearly symmetric distribution.

IMP: The mean score for IMP was 32.25 (SD = 6.56), with a minimum of 43 and a maximum of 12. The skewness was -0.700 (SE = 0.143), and the kurtosis was 1.243 (SE = 0.284). IMP has similar characteristics to NEG but with a slightly more negative skew.

WB: The mean score for WB was 72.67 (SD = 9.83), with a minimum of 45 and a maximum of 97. The skewness was -0.093 (SE = 0.143), and the kurtosis was -0.241 (SE = 0.284). WB has a moderate spread, is close to a symmetric distribution, and has a slightly flatter than normal distribution.

The data were evaluated for skewness and kurtosis. All variables demonstrated near-normal distribution, with skewness and kurtosis values within acceptable ranges (±2), suggesting that the data distribution is approximately normal.

Figure 2 Normal Distribution with Skewness and Kurtosis

Normal Distributions with Skewness and Kurtosis Indicated

Legend:
- MTQTOTAL — Skewness=0.111, Kurtosis=-0.073
- BEQTOTAL — Skewness=-0.315, Kurtosis=-0.428
- WB — Skewness=-0.093, Kurtosis=-0.241
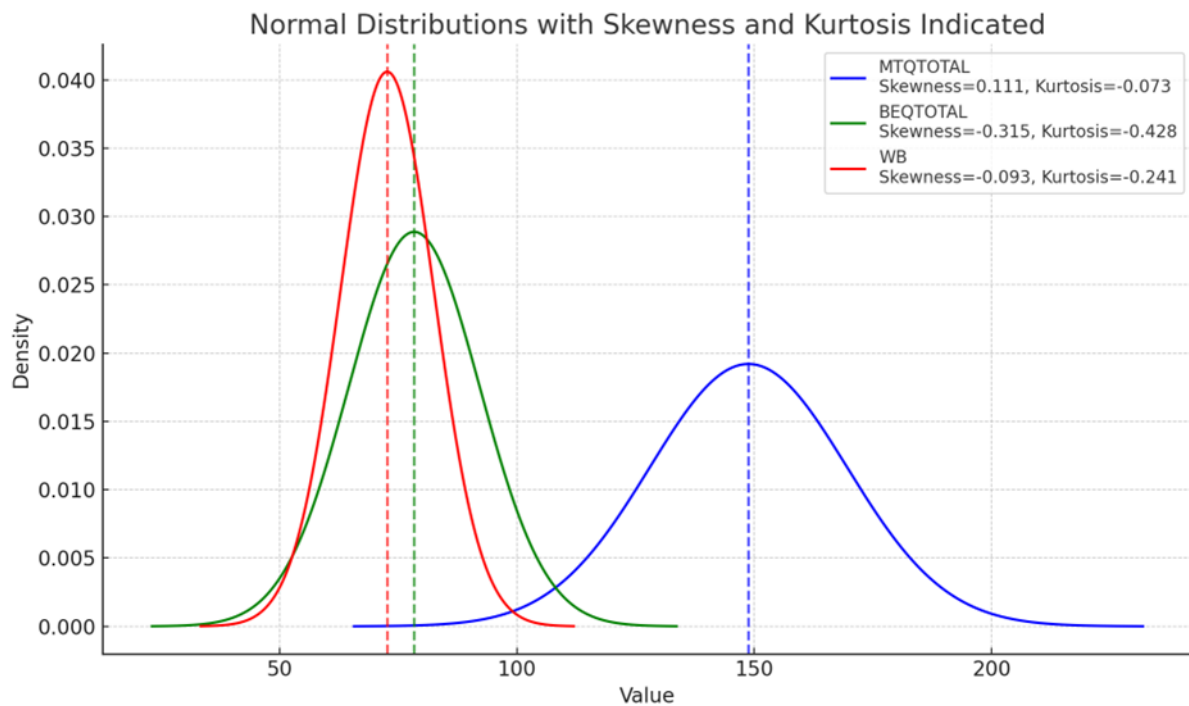
The analysis presents descriptive statistics for three key variables: MTQTOTAL, BEQTOTAL, and WB. The skewness and kurtosis values for each variable are examined to assess the normality of their distributions. The skewness and kurtosis values for all three variables are close to zero, indicating that the data is generally symmetric and not drastically different from a normal distribution. Regarding overall symmetry, the data is nearly symmetric around the mean, making a normal distribution a reasonable approximation. Kurtosis Values: The slight flattening indicated by negative kurtosis suggests fewer extreme values but does not significantly deviate from normality. Given these characteristics, a normal distribution is appropriate for analysing these variables. Most parametric tests assume normality, and these assumptions are not strongly violated by the data, ensuring the accuracy of results using such tests is maintained despite slight.

Table 4 CORRELATION MATRIX

	MT	Ch	CT	Con	Cont	NE	PE	IS	EE	PWB
Mental Toughness										
Challenge	.737**									
Commitment	.777**	.453**								
Confidence	.900**	.572**	.571**							
Control	.859**	.560**	.553**	.697**						
Negative Emotionality	-.059	-.139*	-.039	.084	.180**					
Positive Emotionality	.202**	.05	.169**	.330**	.026	.445**				
Impulse Strength	-.295**	-.207**	-.205**	-.188**	-.389**	.500**	.396**			
Emotional Expressivity	-.116*	-.154**	-.072	.04	-.268**	.855**	.675**	.829**		
Psychological Well-being	.694**	.422**	.593**	.674**	.538**	.153**	.399**	-048	.160**	

Key - Mental Toughness (MT); Challenge (Ch); Commitment (CT); Confidence (Con); Control (Cont); Negative Emotionality (NE); Positive Emotionality (PE); Impulse Strength (IS); Emotional Expressivity (EE); Psychological Well-being (PWB). *<.05; **<.01.

Objective 1: Examine the cross-sectional associations between psychological well-being and emotional expressivity.

Hypothesis 1: PWB significantly positively correlated with EE.

The result showed a significant positive correlation between psychological well-being (PWB), measured by the WB scale, and emotional expressivity (EE), measured by the BEQTOTAL scale, $r(292) = .424$, $p < .001$. This indicates that higher levels of psychological well-being are associated with higher levels of emotional expressivity.

Further analysis of the subscales of EE revealed the following:

PWB and POS: The result showed a significant positive correlation $r(292) = 0.399$, $p < .001$). A significant positive correlation between PWB and POS suggests that individuals with higher psychological well-being tend to express more positive emotions. This moderate association indicates that positive emotional expressivity is essential to psychological well-being.

PWB and NEG: A weak positive correlation $r(292) = 0.153$, $p < .001$) is observed. This indicates that individuals with higher PWB might also experience slightly elevated levels of negative emotions.

PWB and IMP: A weak negative correlation $r(292) = -0.048$, $p > 0.05$) is present but is not statistically significant. This suggests no meaningful relationship between PWB and impulse strength. A non-significant relationship exists between PWB and IMP, meaning that impulse strength does not significantly determine an individual's psychological well-being.

A posteriori power analysis was conducted after the data collection. Correlation bivariate normal model was conducted at the 0.05 alpha level. This implies there is a 5% chance of a Type I error. It revealed a statistical power of 95%. This means the study had a high probability of correctly detecting a true relationship between PWB and EE if one exists. While the power analysis suggests a low probability of Type II error for the overall relationship between PWB and EE, the individual subscale analyses, specifically the non-significant finding with IMP, might be more susceptible to Type II error. This is because the correlations with the subscales are likely smaller in magnitude than the overall correlation between PWB and EE. and Impulse strength (IMP).

Type I and Type II errors:

Type I Error Risk: The significant positive correlations (WB with BEQTOTAL, POS, and NEG) are at risk of Type I error. This implies a slight chance that these observed relationships are due to random chance, not a true effect in the population.

Type II Error Risk: The non-significant correlation (WB with IMP) is at risk of Type II error. This means there might be an authentic relationship between well-being and impulse strength, but the study may not have enough power to detect it.

Objective 2: Determine the relationship between mental toughness and emotional expressivity.

Hypothesis 2: MT significantly correlates positively with EE (POS, NEG, and IMP).

The result showed a non-significant correlation between mental toughness (MT), measured by the MTQTOTAL scale, and emotional expressivity (EE), measured by the BEQTOTAL scale, $r(292) = .095$, $p > .05$. This indicates that there is no significant linear relationship between overall mental toughness and overall emotional expressivity. This is similar to H1; MT and EE had no significant correlation, leading to the failure to reject the null hypothesis. A Type II error is also possible in this case. Similar to the relationship with psychological well-being, there might not be a strong direct link between mental toughness and overall emotional expressivity.

Further analysis of the subscales of EE revealed the following:

Positive Emotionality (POS): There was a significant positive correlation between MT and POS, $r(292) = .202$, $p < 0.01$. This finding is consistent with Hypothesis 2 for the POS subscale. This suggests that individuals with higher mental toughness may experience slightly more positive emotions.

Potential Error: Type I error (false positive) – there is a small chance this significant correlation is due to chance, not a true effect.

Negative Emotionality (NEG): There was a significant negative correlation between MT and NEG, $r(292) = -.059$, $p < 0.01$. This finding contradicts Hypothesis 2 for the NEG subscale.

Impulse Emotionality (IMP): There was a significant negative correlation between MT and IMP, $r(292) = -0.295$, $p < 0.01$. This finding also contradicts Hypothesis 2 for the IMP subscale.

This implies that individuals with higher mental toughness tend to experience fewer negative emotions and demonstrate less impulsive behaviour

Power Analysis:

A posteriori power analysis using the correlation bivariate normal model was conducted at the 0.05 alpha level. This revealed a statistical power of 99%, indicating that the study had a high probability of detecting a true effect if one exists. The high statistical power (99%) generally reduces the likelihood of Type II errors but does not eliminate them. It is still possible to miss true effects, especially if the true effect sizes are very small.

Based on the total scores of the MT and EE scales, the null hypothesis (H0), which is that there is no relationship between MT and EE, cannot be rejected. There is insufficient evidence to conclude a significant positive relationship between overall Mental Toughness and overall Emotional Expressivity. However, the results at the subscale level show that MT is significantly related to aspects of EE, although not always in the positive direction as hypothesised. The results suggest a more nuanced relationship between MT and EE than initially hypothesised. The significant negative correlations with negative emotionality and impulse emotionality suggest that higher MT might be associated with lower levels of these aspects of EE. The high statistical power (99%) indicates that the study was well-powered to detect effects, even if some of those effects were in the opposite direction than expected.

Type I and Type II Error:

Type II Error (False Negative): The non-significant correlation between overall MT and EE could represent a Type II error. This means there might be a true relationship between these two overall constructs in the population, but the study failed to detect it. This could be due to various factors, such as how the scales measure MT and EE or other variables influencing the relationship.

Type I Error (False Positive): The significant relationships between MT and the EE subscales (POS, NEG, IMP) could potentially be Type I errors. While the high power of the study makes this less likely, there is still a small chance that these observed correlations occurred due to random sampling variability.

Objective 3: To determine the relationship between Mental Toughness and Psychological Well-being.

Hypothesis 3: MT is significantly positively correlated with PWB

Mental toughness (MTQTOTAL) and psychological well-being (PWB) show a strong positive correlation ($r = .694$, $p < .001$). This indicates that individuals with higher mental toughness tend to report higher levels of psychological well-being.

This strong positive correlation indicates that higher mental toughness is strongly associated with higher psychological well-being. This suggests that mentally tough individuals are likely to have greater psychological well-being.

The strong positive correlation between MT and PWB supports this hypothesis. The null hypothesis is rejected, and it is concluded that there is a significant positive relationship between these variables. The p-value ($< .001$) suggests a low Type I error probability.

Subscales of PWB:

The significant positive relationship extends to the following subscales of PWB:

Autonomy: $r(292) = .247$, $p < .01$

Environmental mastery: $r(292) = .141$, $p < .05$

Personal growth: $r(292) = .138$, $p < .05$

Positive relations: $r(292) = .238$, $p < .01$

Purpose in life: $r(292) = .173$, $p < .05$

However, there is no significant relationship between MT and self-acceptance, a subscale of PWB.

Subscales of MT:

There is a significant positive relationship between commitment (subdomain of MT) and PWB, $r(292) = .241$, $p < .01$. The relationship extended to all the subscales of commitment except environmental mastery.

There is a significant positive relationship between confidence in own ability (subdomain of MT) and PWB, $r(292) = .216$, $p < .01$. In addition, the positive relationship extends to autonomy ($r(292) = .204$, $p < .01$) and positive relations ($r(292) = .179$, $p < .01$), which are subscales of PWB.

However, there are no significant relationships between PWB and the following subdomains of MT: challenge, control, emotion control, confidence, and interpersonal confidence.

Power Analysis:

A posteriori power analysis using the correlation bivariate normal model was conducted at the 0.05 alpha level, and 93% statistical power was obtained.

Conclusion:

The H1 of hypothesis 3 was accepted, as there was a significant relationship between Mental Toughness and Psychological well-being.

Explanation of Type I and Type II Errors

Type I Error: Rejecting a true null hypothesis (false positive). Concluding there's a significant effect when there is not.

Type II Error: Failing to reject a false null hypothesis (false negative). Concluding there is no significant effect when there is.

The significant positive correlation between MT and PWB in this analysis could be a Type I error. Meanwhile, the non-significant relationships between PWB and some MT subdomains could be caused by Type II errors. The sample size 292 was considered adequate based on the power analysis. This large sample size further reduces the likelihood of Type I errors (false positives) and Type II errors (false negatives). Based on the power analysis and the large sample size, we can confidently conclude that the significant findings in this study are not due to Type I errors. Additionally, the high statistical power suggests that the non-significant findings are not likely due to Type II errors. Therefore, the results of this study can be considered reliable and valid.

Mediation Analysis

Objective 4: To measure individual differences in EE, mediating the relationship between MT and PWB.

Figure 2 Model for the Mediation Analysis
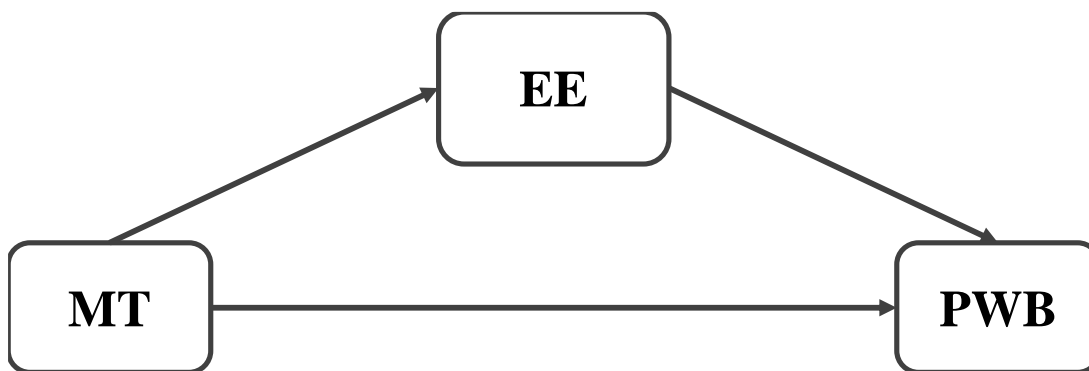
Figure 3 shows the model assumed for the mediation analysis with MT as the independent variable and PWB as the dependent variable while EE is the mediator.

Figure 3 PE MEDIATE BETWEEN MT AND PWB
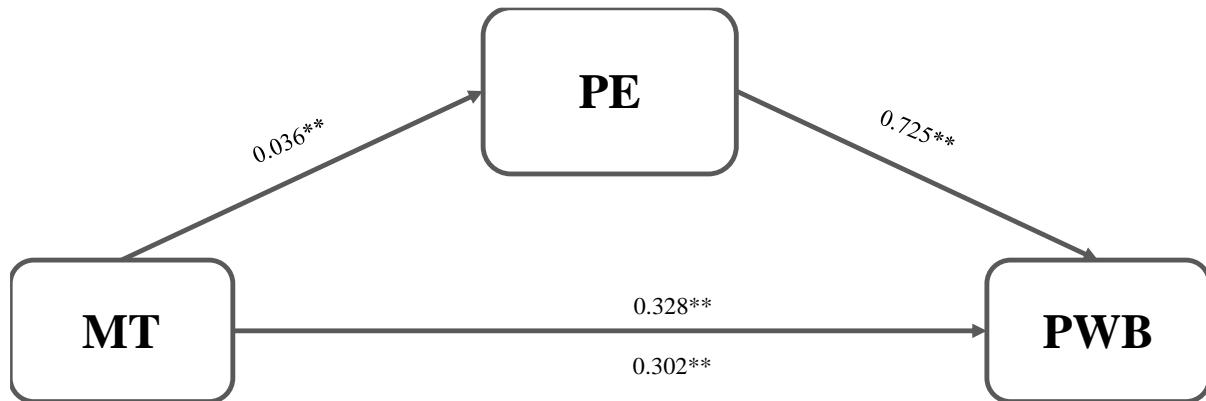
***Effect is significant at 0.001 level; **Effect is significant at 0.01 level; *Effect is significant at 0.05.

Direct and Indirect Effect of MT on PWB Through Positive Emotionality

The mediation analysis of Figure 4 showed whether positive emotionality mediated the relationship between mental toughness and psychological well-being using the Hayes PROCESS (model 4). The result showed that mental toughness (MT) has both a direct and an indirect effect on psychological well-being (WB). Mediation: The model hypothesises that Positive Emotions partially mediate the relationship between Mental Toughness and Psychological Well-being. This means that Mental Toughness directly affects Psychological Well-being and indirectly influences it by increasing Positive Emotions, contributing to better well-being.

Direct Effect: The direct effect of mental toughness on psychological well-being was significant at an estimate of coefficient = 0.302 (SE = 0.020; 95% CI = [0.265, 0.340]), indicating that mental toughness has a strong direct positive impact on psychological

wellbeing. The 95% confidence interval [.2648, .3397] indicates the range within which we can be 95% confident that the true population value of this direct effect lies.

Indirect Effect: The indirect effect of mental toughness on psychological well-being through positive emotions (POS) was significant with a coefficient of significance = 0.026 (SE = 0.009; 95% CI = [0.0092, 0.045]). This suggests that mental toughness enhances psychological well-being by fostering positive emotions. Since the direct effect remains significant, this implies that positive emotions partially mediate the relationship between mental toughness and psychological well-being.

The total effect: The total effect of mental toughness on psychological well-being, combining the direct and indirect effects, was significant (coefficient= 0.328 (SE = 0.020; 95% CI = [0.288, 0.368]).

Figure 4 NE MEDIATE BETWEEN MT AND PWB
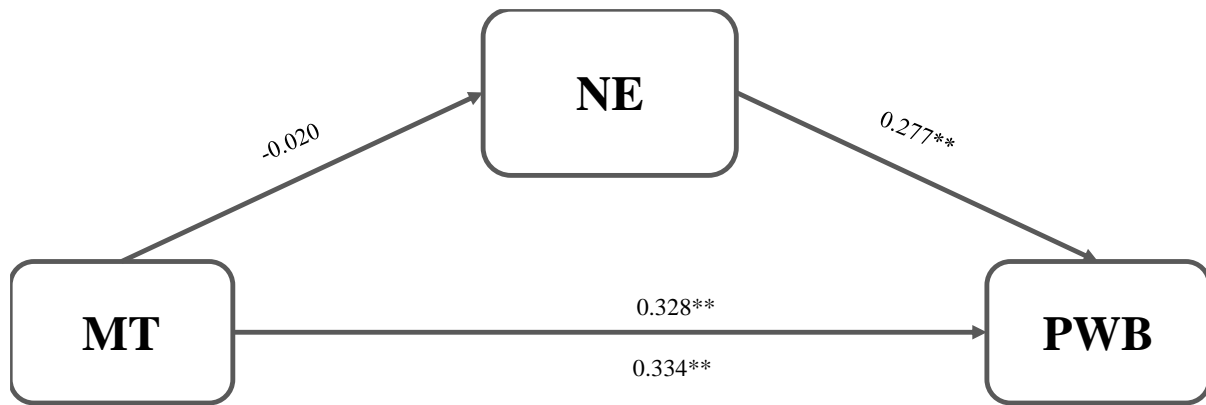
Mental Toughness and PWB via NE (Indirect effect = -0.005, SE = 0.009; 95% CI = [-0.018, 0.005]).

***Effect is significant at 0.001 level; **Effect is significant at 0.01 level; *Effect is significant at 0.05.

Figure 5 shows that the mediation analysis examined the direct and indirect effect of mental toughness on psychological well-being via negative emotions using the Hayes PROCESS model 4. The result showed that mental toughness (MT) has both a direct and an indirect effect on psychological well-being (WB).

Direct effect: The direct effect of mental toughness on psychological well-being was significant (coefficient = 0.334, SE = 0.019; p<.001, 95% CI = [0.2955, 0.3716]). This indicates that mental toughness has a strong direct positive impact on psychological well-being, even after accounting for the influence of negative emotions.

Indirect effect: The indirect effect of mental toughness on psychological well-being through negative emotions (NEG) is significant (Coefficient = -0.0054, SE = 0.009; 95% CI = [-0.0178, 0.0048]), suggesting that mental toughness also enhances psychological wellbeing by suppressing negative emotions. Since the direct effect remains significant, this implies that negative emotions partially mediate the relationship between mental toughness and psychological wellbeing.

The total effect of mental toughness on psychological well-being is = 0.328 (SE = 0.020; 95% CI = [0.2887, 0.3675]).

MT's direct and indirect effects on WB were significant, suggesting that negative emotions partially mediate the relationship between MT and WB. In other words, MT directly and indirectly influences WB through its effect on negative emotions.

Figure 5 IMP MEDIATE BETWEEN MT AND PWB
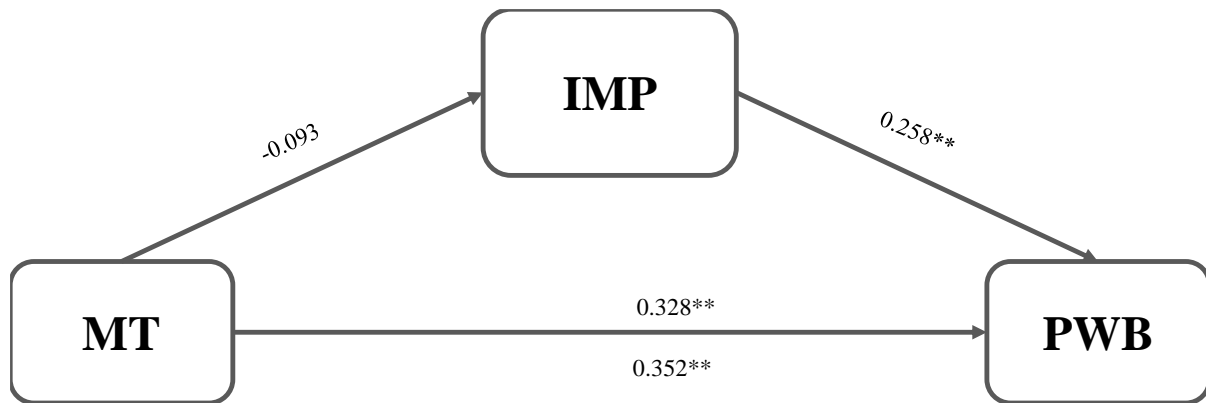
Mental Toughness and PWB via IMP (Indirect effect = -0.024, SE = 0.008; 95% CI = [-0.044, 0.010]).

***Effect is significant at 0.001 level; **Effect is significant at 0.01 level; *Effect is significant at 0.05.

Figure 6 shows the mediation analysis examining mental toughness's direct and indirect effects on psychological well-being through impulse strength using the Hayes PROCESS model 4. The result showed that mental toughness (MT) has both a direct and an indirect effect on psychological well-being (PWB). The direct and indirect effects of MT on WB were significant, suggesting that impulse strength partially mediates the relationship between MT and WB. In other words, MT influences WB directly and indirectly through its effect on impulse strength.

Direct Effect: The direct effect of mental toughness on psychological well-being was significant (coefficient = 0.352, SE = 0.022; p<.001, 95% CI = [0.309, 0.394]). This indicates that mental toughness has a strong, direct, positive impact on psychological well-being.

Indirect Effect: The indirect effect of mental toughness on psychological well-being through negative emotions (NEG) was significant. [β = -0.024, SE = 0.008; 95% CI = [-0.044, 0.010], suggesting that mental toughness wellbeing enhances psychological well-being by suppressing impulse strength. Since the direct effect remains significant, this implies that impulse strength partially mediates the relationship between mental toughness and psychological well-being.

Total Effect: The total effect of mental toughness on psychological well-being is [coefficient = 0.328, SE = 0.022; 95% CI = [0.284, 0.369].

Reverse mediation

A reverse mediation analysis was conducted to examine whether Mental Toughness (MTQTOTAL) mediates the relationship between Positive emotion (POS) and psychological well-being (WB). The sample size for the analysis was 292 participants.

Path A: Effect of POS on MTQTOTAL A reverse mediation analysis was conducted in the PROCESS macro for SPSS to gain more valuable insights and a more nuanced understanding of the relationships between positive emotions, psychological well-being, and mental toughness.

Figure 6 REVERSE MEDIATION BETWEEN PE AND PWB
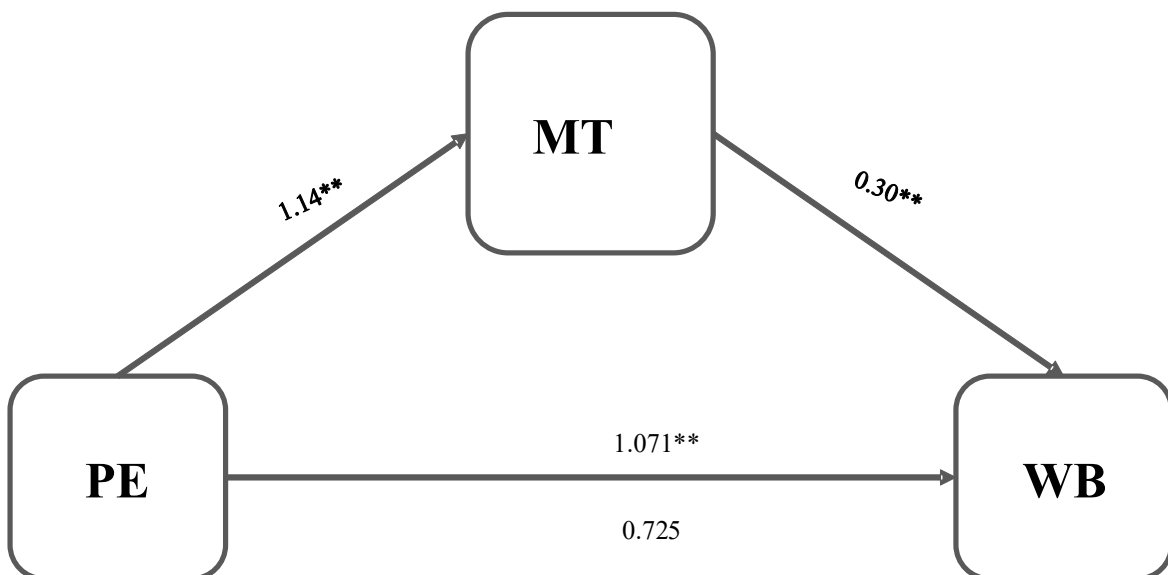
Reverse Mediation Model:

Independent Variable (X): POS

Mediator (M): MTQTOTAL

Dependent Variable (Y): WB

The first regression model tested the effect of Positive emotion (POS) on Mental Toughness (MTQTOTAL). The model was statistically significant, $F(1, 290) = 12.32$, $p < .001$, $R^2 = .0408$, indicating that POS explained 4.08% of the variance in MTQTOTAL. The unstandardised regression coefficient for POS was $B = 1.14$, $SE = 0.33$, $t = 3.51$, $p < .001$, 95% CI [0.50, 1.79], indicating that higher positive affect significantly predicted greater mental toughness. The standardised coefficient was $\beta = .2019$.

Path B: Effect of POS and MTQTOTAL on Well-Being (WB)

The second regression model examined the effect of both Positive emotion (POS) and Mental Toughness (MTQTOTAL) on Well-Being (WB). The model was highly significant, $F(2, 289) = 177.46$, $p < .001$, $R^2 = .5512$, indicating that POS and MTQTOTAL explained 55.12% of the variance in WB. The unstandardised regression coefficient for POS was $B = 0.72$, $SE = 0.11$, $t = 6.72$, $p < .001$, 95% CI [0.51, 0.94], while the unstandardised regression coefficient for MTQTOTAL was $B = 0.30$, $SE = 0.019$, $t = 15.88$, $p < .001$, 95% CI [0.26, 0.34]. The standardised coefficients were $\beta = .2703$ for POS and $\beta = .6390$ for MTQTOTAL, indicating that both variables positively predicted well-being, with mental toughness having a stronger influence.

Total Effect of POS on WB (Path C)

A simple regression model was conducted to determine the total effect of Positive Affect (POS) on Well-Being (WB) before including the mediator. The model was statistically significant, $F(1, 290) = 55.01$, $p < .001$, $R^2 = .1594$, indicating that POS explained 15.94% of the variance in WB. The unstandardized regression coefficient for POS was $B = 1.07$, $SE = 0.14$, $t = 7.42$, $p < .001$, 95% CI [0.79, 1.35], with a standardized coefficient of $\beta = .3993$.

Direct and Indirect Effects

The mediation analysis revealed that the direct effect of Positive Affect (POS) on Well-Being (WB), controlling for Mental Toughness (MTQTOTAL), remained significant, B = 0.72, SE = 0.11, t = 6.72, p < .001, 95% CI [0.51, 0.94]. The standardised direct effect was β = .2703.

The indirect effect of POS on WB through MTQTOTAL was also significant, B = 0.35, Boot SE = 0.11, 95% Boot CI [0.14, 0.58]. The standardised indirect effect was β = .1290, Boot SE = 0.0390, 95% Boot CI [0.054, 0.206], indicating that mental toughness partially mediated the relationship between positive affect and well-being.

Summary of Effects:

Total effect of POS on WB: B = 1.07, SE = 0.14, t = 7.42, p < .001, 95% CI [0.79, 1.35], β = .3993.

Direct effect of POS on WB (controlling for MTQTOTAL): B = 0.72, SE = 0.11, t = 6.72, p < .001, 95% CI [0.51, 0.94], β = .2703.

Indirect effect of POS on WB through MTQTOTAL: B = 0.35, BootSE = 0.11, 95% Boot CI [0.14, 0.58], β = .1290.

This analysis suggests that Mental Toughness (MTQTOTAL) partially mediates the relationship between Positive Emotion (POS) and Psychological Well-Being (WB). This means that individuals with higher positive affect tend to have higher well-being, in part due to their increased mental toughness. The reverse mediation analysis suggests positive emotionality influences well-being by enhancing mental toughness. This finding emphasises the role of positive emotional experiences in developing mental toughness, positively impacting psychological well-being.

The mediation and reverse mediation models both highlight the connection between mental toughness, positive emotionality, and psychological well-being. These analyses suggest a bidirectional relationship where mental toughness enhances positive emotionality and psychological well-being, while positive emotions also foster greater mental toughness that contributes to well-being. This relationship highlights the value of focusing on mental toughness and positive emotional experiences to promote overall well-being.

Regression analysis and Statistical diagnosis

Linear regression

A linear regression examined the relationship between Mental Toughness Total (MTQTOTAL) and psychological well-being (WB). The analysis was supplemented by diagnostics for multicollinearity, homoscedasticity, and normality of residuals to ensure the validity and rigor of the model.

The regression model was significant, $R2 = 0.159$, F (1,290) = 55.011 p < .001. The model indicates that 15.9% of the variance in psychological well-being (WB) can be by mental toughness. The model explains a moderate portion of the variance in psychological well-being. It suggests that other factors not included in this model contribute to 84.1% of the variability in psychological well-being. The unstandardised regression coefficient for MTQTOTAL was 1.071, SE=0.144, t (290) = 7.417, p < .001, 95% CI [0.787, 1.355]. This suggests that for every one-unit increase in MTQTOTAL, psychological well-being (WB) increases by 1.071 units. The standardised coefficient (β) was 0.399, indicating that a 1 standard deviation increase in MTQTOTAL results in a 0.399 standard deviation increase in WB.

Multicollinearity was assessed using the Variance Inflation Factor (VIF), with a value of 1.0 for MTQTOTAL. VIF values below 5 indicate that multicollinearity is not an issue in this model. The absence of multicollinearity ensures that mental toughness can be interpreted independently of other variables, allowing for a clear understanding of its impact on psychological well-being. The assumption of homoscedasticity was tested using the Breusch-Pagan test (p = .210), with a non-significant outcome. This suggests that the variance of residuals was consistent across all levels of MTQTOTAL. The homoscedasticity assumption implies that the standard errors of the coefficients are reliable, leading to accurate p-values and confidence intervals. This enhances the reliability of the regression model. The normality of residuals was confirmed using Z-tests for skewness and kurtosis (Z=0.111, p > .05) and kurtosis (Z=−0.073Z p > .05). Both tests were non-significant, suggesting that the residuals were approximately normally distributed. These indicate that the residuals followed a normal distribution. These findings support the reliability and validity of the regression model's results, emphasising the significant positive relationship between mental toughness and psychological

well-being. The normality of residuals supports the assumption that the errors in the model are normally distributed, which is crucial for the validity of hypothesis testing and the construction of confidence intervals in regression analysis.

Multiple regression

A multiple regression analysis was conducted to predict well-being (WB) from mental toughness (MTQTOTAL) and positive emotions (POS). The overall model was statistically significant ($F_{(2, 289)} = 177.455$, $p < .0000$), with an R-squared of 0.5512. This indicates that mental toughness and positive emotions explain 55.12% of the variance in well-being scores. The unstandardised coefficient for MTQTOTAL was 0.3023 (SE = 0.0190, t = 15.8821, $p < .0000$), suggesting that for every one-unit increase in mental toughness, well-being increases by 0.3023 units, holding positive emotions constant. The unstandardised coefficient for POS was 0.7248 (SE = 0.1079, t = 6.7179, $p < .0000$), indicating that for every one-unit increase in positive emotions, well-being increases by 0.7248 units, holding mental toughness constant.

The analysis of residuals indicated no significant violation of the assumptions of homoscedasticity and normality. The Breusch-Pagan homoscedasticity test was insignificant, suggesting that the variance of the residuals is constant across levels of the predictor variables. In addition, the Z-tests for skewness and kurtosis of the residuals were not significant, indicating that the residuals are normally distributed. The Variance Inflation Factors (VIFs) for MTQTOTAL and POS were both below the recommended threshold of 10, indicating no multicollinearity issues.

In summary, the results confirm that mental toughness significantly and positively predicts psychological well-being with a model that meets linear and multiple regression assumptions. Multicollinearity is not a concern, confirming that the relationship between variables is clear and unbiased. Homoscedasticity and normality of residuals indicate that the model's standard errors and significance tests are reliable, allowing for an accurate interpretation of the predictor's impact on the outcome. The diagnostic tests confirmed that the model meets the assumptions of low multicollinearity, homoscedasticity, and normality of residuals, supporting the robustness of the findings. These findings suggest that efforts to improve mental toughness may have a meaningful impact on enhancing psychological well-being. Additionally, the results indicate that future research could explore other potential predictors to further explain the variance in psychological well-being.

3.11 Discussion

This study examines the association between mental toughness, psychological well-being, and emotional expressivity. It found a positive relationship between psychological well-being and emotional expressivity. However, the relationship was marginally non-significant. Secondly, there was a positive relationship between mental toughness and the trio of negative emotionality, positive emotionality, and impulse emotionality, which are the subscales of emotional expressivity. Thirdly, mental toughness and psychological well-being had a significant positive relationship.

The overall pattern of results suggested a relationship between mental toughness and psychological well-being. The additional mediation analysis also supported the view that mentally tough individuals use positive emotions to enhance psychological well-being.

Additionally, a reverse mediation analysis explored whether MT could mediate the relationship between positive emotionality and psychological well-being-. The findings support the hypotheses while revealing complexities in how these variables interact.

Hypothesis 1: Relationship between Psychological Well-Being and Emotional Expressivity

Hypothesis 1 proposed that psychological well-being (PWB) positively correlates with emotional expressivity (EE). This hypothesis was confirmed, with a moderate positive correlation between PWB and EE, indicating that higher psychological well-being (PWB) levels are associated with greater emotional expressivity. This result is consistent with previous research suggesting that expressing emotions is crucial for psychological adjustment, as it allows individuals to experience and communicate emotions in adaptive ways (Gross, 2017; Haga, Kraft, & Corby, 2009). Specifically, a significant positive correlation between psychological well-being (PWB) and positive emotionality (POS) highlights that individuals with greater psychological well-being (PWB) are more likely to express positive emotions, aligning with studies linking positive expressivity to increased life satisfaction and reduced depressive symptoms (Harrington & Loffredo, 2010).

The explanation may be that individuals with psychological well-being express positive emotion adequately and use it to develop good psychological functioning. This aligned with a previous literature review (Gross, 2015). This finding is also similar to some studies; for

example, studies have found a relationship between emotional expression and positive physical and mental health in various populations (Sloan & Marx, 2004); in a group of breast cancer patients (Stanton et al., 2000) and older adults (Shaw et al., 2003). Similarly, lower levels of emotional expressivity have been linked to social anhedonia (Leung, Couture, Blanchard, Lin, & Llerena, 2010), depression (Sloan, Strauss, & Wisner, 2001), psychological impairments (Watson, Pettingale, & Greer, 1984) and schizophrenia (Earnst & Kring, 1999). However, the non-significant relationships between negative emotionality and impulse emotionality with PWB suggest these aspects of emotional expressivity may be independent of overall psychological well-being. At the same time, negative emotionality and impulse emotionality have a non-significant relationship with PWB.

The findings imply that fostering positive emotionality could be a pathway to enhancing psychological well-being. Future research should focus on developing interventions that improve positive emotionality and its impact on PWB. In addition, the present study focuses on the relationship between PWB and EE and not on individuals with high or low levels of emotional expressivity. The implication of this result may be inconclusive. Therefore, further studies involving larger samples should be conducted to determine whether individuals with good psychological well-being exhibit high or low levels of EE. The implication of this result is to generate positive emotionality to enhance PWB. Therefore, future research is needed to improve positive emotionality and PWB.

Hypothesis 2: Relationship between Mental Toughness and Emotional Expressivity

Hypothesis 2 posited that mental toughness (MT) would significantly positively correlate with emotional expressivity (EE). However, the overall correlation between MT and EE was non-significant, suggesting no significant direct relationship between MT and EE. The analysis of EE subscales revealed more nuanced patterns: MT was positively correlated with POS and negatively correlated with negative emotionality (NEG). These findings suggest that MT may facilitate positive emotional expressions while suppressing negative expressions, aligning with research indicating that mental toughness enhances emotional control, particularly in managing negative emotions (Crust, 2009). This suggests that while MT does not predict emotional expressivity broadly, it is related to specific expressions of positive and negative emotions. Crust (2009) also showed no association between mental toughness and affect intensity. It was found that participants with high or low levels of mental toughness did not predictably

experience more or less intense emotions. It implies that individuals higher in mental toughness feel the emotion as intensely as those lower in MT. The only difference is that individuals with mental toughness can exert control over their emotions either positively or negatively. Crust then suggested that new research should be done to understand how athletes with high mental toughness maintain control and high performance levels in stressful situations. This indicates that individuals higher in mental toughness display negative emotionality and are as impulsive as those lower in MT; however, they can exert positive emotions over their negative emotionality or impulse. Another explanation might be that other variables might influence the result, which was not considered in the present study. These variables may be both internal and external variables. Although the current study's results may not be identical to previous studies, this might be because the present study was based on positive psychological functioning and not psychological impairments. It is one of the arguments that previous studies have primarily dissipated energy on psychopathology instead of psychological functioning (Seligman, 2018).

Furthermore, there was also a positive relationship between MT and the trio of negative emotionality, positive emotionality, and impulse emotionality, which are the subscales of EE. In addition, all the domains of MT (Control: Emotion control, Life control, Confidence: interpersonal confidence, confidence in own abilities Challenge, Commitment) have significant positive relationships with Emotional expressivity. The result was also consistent with other studies, which found positive relationships between emotional expressivity and personality traits of extraversion (Riggio & Riggio, 2002). It is worth noting that Clough et al. (2015) defined mental toughness as a personality trait and individuals who are mentally tough are sociable. This finding challenges some previous notions that mentally tough individuals primarily use problem-solving rather than emotional strategies to cope with stress (Nicholl et al., 2009). Although, this was inconsistent with findings from Nicholl et al., (2009), which stated that mentally tough people use more problem-solving to cope with stress than emotional strategies. The present study used university students, whereas Nicholl and colleagues used athletes for their research. This implies that mentally tough people use positive emotions as strength to control adverse events; it should be noted that mentally tough people may likely be using positive emotions as part of their strength to cope with stress, agreeableness and openness to experience (Leising, Müller, & Hahn, 2007). Individuals with higher levels of emotional expressivity have been known to derive greater pleasure from social interactions (Kring, Smith, & Neale, 1994), which Clough et al. (2015) have also suggested. Notably, the percentage of

mental toughness was very small compared to EE and PWB. The possible explanation for the relationship between MT and total EE, negative emotionality and impulse strength might be due to the sample's low percentage of mental toughness. The present results imply that there might be an increase in negative emotionality and impulse strength if the mental toughness were not developed due to the low mental toughness. Another explanation might be the high percentage of females in the study. It is worth noting that the study revealed that females are more emotional expressivity than males, specifically negative emotionality. Therefore, future studies should develop mental toughness with positive emotion, as Crust (2016) suggested. This would be very interesting because Fredrickson (1998, 2001) developed a model of the broaden-and-build theory of positive emotions to understand psychological resilience. Since psychological resilience is a concept similar to MT, Therefore, it is suggested that it could be adopted for MT as suggested by (Crust et al., 2014). It is recommended that future research should include both MT and positive emotions. There may be some other hidden factors that are not captured. This hypothesis was supported fully and is in line with previous studies.

The results suggest that mentally tough individuals may use positive emotions as a strength to control adverse events, aligning with traits like agreeableness and openness to experience (Leising, Müller, & Hahn, 2007). However, the low percentage of mental toughness in the sample compared to EE and PWB warrants caution in interpretation. These findings highlight the need for future research to focus on developing mental toughness in conjunction with positive emotional expressivity, as suggested by Crust (2016). This approach could potentially enhance the overall effectiveness of mental toughness in contributing to psychological well-being.

Hypothesis 3: Relationship between Mental Toughness and Psychological Well-Being

Hypothesis 3 predicted a significant positive correlation between MT and psychological well-being (PWB), a hypothesis strongly supported by the findings. This robust positive correlation suggests that individuals with higher MT experience greater psychological well-being, supporting theories that resilience and well-being are closely related to mental toughness (Stamp et al., 2015; Clough & Strycharczyk, 2015). This finding suggests that MT enables individuals to handle stress and adversity better, enhancing psychological well-being (PWB) components such as autonomy, purpose in life, and personal growth.

Several mechanisms have explained the relationship between these two concepts. The study found a significant positive relationship between MT and PWB. In alignment with findings from other studies, PWB was significantly and positively related to MT (Brand et al., 2013; Brand et al., 2014; Brand et al., 2016; Gerber et al., 2015; Stamp et al., 2015). Specifically, components of MT were found to predict PWB and its subscale. Mental toughness has a significant positive relationship with all the domains of PWB except Self-acceptance. The possible explanation for this might be that an individual might be mentally tough and not accept themselves the way they are or love themselves due to a low level of MT. This result implies that mentally tough persons may not accept and love themselves the way they are. This calls for future research for an intervention programme for students to access programmes that enhance their self-acceptance, which invariably assists in personal development. It is also recommended that interventions that involve self-acceptance by loving oneself and accepting the past should be implemented, specifically among university students. As it is known, this is the age group at risk in a population. Some researchers affirm that students are at risk of mental health issues (Clough & Strycharczyk, 2012).

There was a non-significant difference in the PWB of male and female respondents. Similarly, male and female respondents had a non-significant difference in MT. This implies that gender does not predict either MT or PWB. However, there were significant differences between EE and males; females had significantly higher EE than males. In addition, there were gender differences in emotional control, with the males having significantly higher values. In comparison, females have higher values for negative emotionality, impulse strength, and purpose in life. This is not surprising as, socially, males may be encouraged to control their emotions, while females are given greater leeway to express their emotions.

Modern-day university students face challenges and pressure, which have led to a high level of psychological disturbance. Knowing how personal resources can serve as a buffer or protection against mental illness and enable students to flourish is well-timed. It is worth noting that the present study used a measure of PWB instead of assuming well-being is simply a reflection of the absence of illness. Furthermore, the current result identified the specific component of MT that predicted each of the subscales of PWB, which allows targeting more future interventions to enhance PWB. The commitment was found to predict both PWB and its subscales except environmental mastery. Committed individuals face challenges and pressure, implying greater involvement in tasks and encounters. In contrast to other studies, commitment predicts

environmental mastery and purpose in life (Stamp et al., 2015). It is worth noting that commitment in the present study predicts all the subscales of PWB except environmental mastery. A possible explanation may be that the present study has a bigger sample size than the others.   Control is positively related to PWB and autonomy, a subscale of PWB. Autonomous individuals are independent and appear to have greater control over their lives; they can put anxiety under control when under pressure and make certain life decisions by themselves without consulting others. Life control is positively related to PWB, environmental mastery and positive relations, which are subscales of PWB. Individuals who have self-control tend to be conscious of their environment and relate positively to people. Individuals tend to control their lives, which implies they feel and act as if they influence their lives. In contrast, Stamp et al. (2015) found that the only component of MT, emotional control, did not significantly predict PWB. However, it was stated that it may likely be due to scale reliability problems (Perry et al., 2013).   Confidence does not predict PWB and its subscales. The finding is unsurprising because other studies have established that mental toughness increases with age. Individuals under 25 may have low self-esteem and self-belief (Marchant et al., 2009; Nicholls et al., 2008). Corroborating this, Marchant et al. (2009) highlighted that individuals aged 25 years and younger demonstrated a tendency to experience alienation from encounters (commitment); a low self-belief in their ability to achieve success (confidence); a lower belief that they are influential (control a view that life is unchangeable, and that opportunity can be a threat (challenge). This is evidence that respondents need to build up their confidence. The result of the present study is different from previous findings on mental toughness in sports domains (Golby & Sheard, 2004; Nicholls et al., 2008). However, the component of confidence, confidence in ability, predicts PWB, autonomy and positive relations with other people, while interpersonal confidence predicts environmental mastery. Autonomy helps nurture self-confidence and the ability to take care of oneself without interference from family and friends. These individuals with the ability and interpersonal confidence can have self-belief and unshakable faith concerning their ability to achieve success (Clough & Strycharczyk, 2012). Likewise, Stamp et al. (2015) found that confidence predicts self-acceptance and positive relationships with people. In contrast, the components of confidence in ability predict optimism and reflect the personal perception of worthiness. Interpersonal confidence predicts autonomy, which implies self-determination, independence and the ability to resist social pressure (Ryff & Keyes, 1995). Additionally, there was no relationship between challenge and PWB and its

subscales. The possible explanation for this might be that challenges might not affect well-being due to specific support that might be a contributory factor, which includes financial support and peer and family support. Although, these were external factors that were limited: support may not always be there after the student finishes university. If challenges are not handled properly, it may lead to psychological impairment (Clough & Strycharczyk, 2012). Self-acceptance is negatively correlated with emotional control. People with low self -esteem seem to be very conscious of themselves and as such, have high control of their emotions to compensate for their low self-esteem. The possible explanation for the inconsistency in the result may likely be due to problems with the scale's reliability, as Perry et al., (2013) have highlighted. Emotional control was the only component of MT that negatively predicted self-acceptance. This might likely be due to the scale's reliability problem. For instance, the shorter version of PWB was used. Therefore, it is recommended that the longer version, which comprises 48 questions, be used in study 2 of the present study. The results of MT and its components is not surprising; Marchant et al. (2009) highlighted the sensitivity of the MTQ48 measure of mental toughness within various sporting settings and other domains. Like other positive psychological resources, mental toughness appears to be a virtue. Mental toughness and most of its subscales were found to vary significantly related to PWB and its domains. MT is a stable personality trait or a mindset that changes highly across situations over time. It can develop through intervention by targeting the elements of MT (Marchant et al., 2009; Nicholls et al., 2008) and through youth's positive experiences (Gould et al., 2009a, b; Bell et al., 2013). Whilst these appear to be possible explanations of the claimed relationships between MT and PWB, it is worth noting that studies have shown that low levels of MT are related to lower PWB. Students with lower MT are likely to be less resilient to the demands of university. It has been mentioned that the MTQ48 might be an essential screening device in identifying students "at-risk" who may not have the necessary personal resources to succeed at university (Crust et al., 2014). This may be more thoughtful of dealing with the challenges of the university rather than any lack of academic capability. It might be profitable for future researchers to examine the impact of interventions for students with high and low levels of MT on PWB. Although the influence of MT interventions has not been widely studied, there are some experimental work (Gucciardi et al., 2009b) and underpinning theories (Crust and Clough, 2011; Gordon, 2012) that could adopt interventions from sports to university contexts. Although previous studies have evaluated the trainability of MT in sport (Clough et al., 2002), future studies should assess

specific mental toughness training systems. The training could follow the 4Cs model (Clough et al., 2002) by improving total mental toughness through control, challenge commitment, and confidence. Positive findings from future studies would have implications for the development of mental toughness in educational settings, improving individual ability to deal with stress and adversity, which will invariably enhance PWB. With previous research demonstrating that mental toughness can act as a buffer against stress and improve PWB in educational settings (Gerber et al., 2015; Stamp et al., 2015), individuals with low mental toughness profiles would be open to the most significant benefits of the training. Specifically, undergraduate students may find themselves exposed to the effects of stress. Furthermore, the inability to deal with stress may be a psychological dysfunction. Future research may prove fruitful in all such areas. Moreso, following the development of mental toughness with PWB and age, future research should assess mental toughness with more different non-university cohorts.

Mediation Analysis: Emotional Expressivity as a Mediator

A mediation analysis tested whether EE mediates the relationship between MT and PWB. Results indicated a partial mediation effect through POS, with a significant indirect effect. This partial mediation suggests that MT promotes PWB by facilitating positive emotional expression, in line with the broaden-and-build theory (Fredrickson, 2005), which posits that positive emotional expressions help broaden an individual's coping resources and resilience. Positive expressivity, therefore, appears to enhance the resilience-building effects of MT, contributing to improved well-being through adaptive emotional responses.

Emotional expressivity mediates the relationship between MT and PWB Hypothesis 4: Individual differences in EE will mediate the relationship between MT and PWB. The model assumed the mediation analysis with MT as the independent variable and PWB as the dependent variable, while positive emotionality (PE) is the mediator. There is a significant partial mediation of the relationship between Mental Toughness and PWB through PE. It implies that positive emotionality is an excellent ingredient in developing mental toughness and psychological well-being. The relationships observed in this study emphasise the need to include positive emotion in the intervention programme of mental toughness. In support of this view, Nicholl (2008) found a relationship between mental toughness, coping and optimism in a study of mental toughness and optimism. They also suggested that optimism should be

included in mental training programmes. Similarly, Crust (2009) suggested that an intervention should be on broadening and building models of mental toughness.

Reverse Mediation Analysis: Mental Toughness as a Mediator

The reverse mediation analysis explored whether MT could mediate the relationship between POS and PWB, hypothesising that MT serves as a pathway through which positive emotions impact well-being. The results showed a significant mediation effect, with POS influencing PWB directly and indirectly through MT. This suggests positive emotionality strengthens well-being by fostering mental toughness, contributing to PWB. This finding aligns with theories suggesting positive emotional experiences build resilience, enhancing MT over time (Gross & Thompson, 2007). The reverse mediation highlights a reciprocal relationship, where positive emotions and MT reinforce each other to promote psychological well-being.

Limitations

This study provides valuable insights into the relationships between mental toughness (MT), emotional expressivity (EE), and psychological well-being (PWB) among university students. However, some of the study's limitations were acknowledged to contextualise the findings and guide future research.

1. Cross-Sectional Design: One of the primary limitations of this study is its cross-sectional design, which captures relationships at a single point in time, limiting causal inference. Although correlations between MT, EE, and psychological well-being (PWB) were significant, it remains unclear whether MT directly causes improvements in psychological well-being (PWB) or if EE mediates this relationship over time. A longitudinal design would allow future studies to examine how these variables interact across different stages in participants' lives, providing a clearer understanding of causation and the stability of these relationships.

2. Self-Report Measures: All data were collected through self-report questionnaires, which can introduce biases such as social desirability and self-perception errors. For example, participants may have reported higher emotional expressivity or psychological well-being (PWB) than they genuinely experienced. Future research could benefit from using multi-method approaches, such as peer

reports, behavioural assessments, or physiological measures of emotional expressivity, to complement self-report data and strengthen the validity of the findings.

3.   Sample Characteristics and Generalisability: The sample was composed solely of university students, which may limit the generalisability of the findings to other populations. University students may have unique stressors and resilience factors that differ from other demographic groups, such as working adults or older populations. Future studies should aim to replicate these findings with diverse age groups and cultural backgrounds to examine whether these relationships hold in broader populations.

4.   Limited Focus on Emotional Expressivity Subtypes: While the study explored EE as a mediator, it primarily examined broad aspects of positive and negative emotional expressivity. This categorisation may overlook more nuanced aspects of emotional expressivity, such as context-dependent or interpersonal expressivity. Future research could examine specific subtypes of emotional expressivity to understand how particular emotional responses (e.g., positive emotions in social contexts) contribute to MT and PWB.

The way forward is to implement strategies to recruit more men to get additional insight into their psychological well-being, mental toughness, and emotional expressivity. Secondly, the design and methodology, the cross-sectional study was conducted with a sample size of more females than males, so we did not assess change over time. It would be valuable to conduct a longitudinal study with a large sample of male and female university students, in which variables are measured multiple times throughout an academic year to examine the levels of psychological well-being, mental toughness, and emotional expressivity. Regarding the measures used, the study uses the short version of the SPWB questionnaire. Future studies should use the more extended version of the SPWB questionnaire. Finally, although the MTQ48 provides insight into individuals' overall mental toughness, it does not enable researchers to target specific aspects of self-regulation mental toughness that could be influencing different variables. As such, a more comprehensive measure should be used in the future to distinguish between specific mental toughness.

Implications and Future Directions Interventions Targeting Both Mental Toughness and Emotional Expressivity: Given the positive relationship between MT, EE, and PWB,

developing interventions that enhance resilience, and emotional expressivity has practical implications. Programs designed to build mental toughness through resilience training, alongside exercises to enhance positive emotional expression (positive psychology interventions or expressive writing), may be particularly effective in promoting psychological well-being in students.

Longitudinal and Experimental Research: Future research should use longitudinal and experimental designs to investigate causality and track the development of MT, EE, and PWB over time. For instance, an intervention study that trains individuals in MT and tracks changes in EE and PWB across multiple time points would provide stronger evidence for causality. Additionally, investigating the potential long-term effects of enhanced emotional expressivity on PWB through interventions could highlight the lasting impacts of these relationships.

Exploration of the Reciprocal Relationship Between Positive Emotions and Mental Toughness: The reverse mediation analysis suggested a bidirectional relationship between POS and MT. Future studies should explore this reciprocal influence further to determine whether positive emotionality can foster MT, which subsequently supports psychological well-being (PWB). This line of research could lead to the development of targeted interventions that first focus on enhancing positive emotions to build resilience.

Broadening the Scope to Other Populations and Contexts: Extending this research to include diverse age groups, occupations, and cultural backgrounds would be valuable. Additionally, exploring these relationships in different contexts, such as workplaces or high-stress environments, could provide insights into how MT, EE, and PWB interact under varying conditions. This approach would help determine whether the findings are specific to university students or apply more universally.

Investigating Contextual Factors in Emotional Expressivity: Finally, future research should examine contextual factors influencing EE, such as social norms or environmental stressors, to better understand how context impacts emotional expression and well-being. Examining how different types of expressivity—such as emotional restraint versus open expressivity—interact with MT and affect PWB psychological well-being (PWB) provides a more nuanced view of how emotional responses contribute to resilience.

Conclusion

The findings of this study provide insights into the interrelated roles of MT, EE, and psychological well-being (PWB). The results suggest that while MT directly supports psychological well-being (PWB), positive emotionality further enhances this relationship by mediating the influence of MT on psychological well-being (PWB). Conversely, MT also mediates the impact of positive emotionality on PWB, suggesting that cultivating positive emotions can foster resilience, which supports psychological well-being (PWB). This bidirectional relationship between MT and POS highlights the importance of fostering resilience and positive emotions in interventions to improve psychological well-being. Future research should explore the long-term impact of these relationships and investigate interventions that target both resilience and positive emotionality to maximise psychological well-being (PWB) outcomes. In sum, this study highlights important links between MT, EE, and PWB, contributing to understanding how resilience and emotional expression impact well-being. Future research addressing the limitations and implications discussed here can build on these findings to develop interventions that promote resilience and emotional health in university students and beyond.

CHAPTER 4

MEDITATION AS A WAY OF INCREASING MENTAL TOUGHNESS, POSITIVE EMOTION, AND PSYCHOLOGICAL WELL-BEING

"The day science begins to study non-physical phenomena, it will make more progress in one decade than in all the previous centuries of its existence."

-Nikola Tesla

STUDY 2

4.1 Introduction

The primary aim of Study 2 in Chapter 4 is to evaluate the impact and effectiveness of loving-kindness meditation in cultivating positive emotions, developing mental toughness, and enhancing psychological well-being among university students. This section provides an executive summary of the research work. It begins with a description of the background of the study and a literature review on meditation and related studies. In addition, it includes an overview of the research method, including the scope of the study, research design, sample, data collection, and data analysis.

4.2 Background to the Study

The journey of human beings in life is similar to that of the Giant Redwood Tree. The Giant Redwood is the tallest tree species on earth. Despite the inherent resilience of Redwood seedlings, they have been destined to stand taller than all other tree species; only a few of the Redwood seedlings may reach the highest expected heights due to certain important factors that they were able to meet. Certain factors may limit the probability of a seedling Redwood reaching its expected height. For example, despite the single Redwood seedling possessing naturally hardy qualities, including a strong outer cone layer, the seed still needs a specific ingredient to grow, such as fertile soil, sufficient sunlight, and water. It must still be shielded

from herbivorous diseases and predators to grow effectively. Similarly, human beings possess innate qualities and virtues, need self-actualisation, the desire to realise one's full potential, and seek personal growth, self-fulfilment, ultimate experiences and true self; though, they may be vulnerable to challenges that might hinder their growth (Maslow, 2011; 1968).

The environments play a vital role in determining the optimum altitude humans reach in later life, particularly during critical and sensitive periods of growth and the time of events during development (Huurre et al., 2007; Johnson, Hicks, McGue, & Iaconno, 2007). One such factor that might influence human growth and well-being is meditation.

4.3 Meditation

Meditation is a complete behavioural and psychological practice that trains the mind to focus and redirect thoughts, promoting holistic well-being (Matko & Sedlmeier, 2019). Engaging in meditation involves a change in the psychological experience of an individual. Due to its potential cognitive and psychological benefits, it is increasingly used as a complementary treatment in various fields, including rehabilitation and medical settings (Matko & Sedlmeier, 2019). There has been supporting evidence suggesting that meditation as a neuro-protective resource has consequences for enhancing cognition and preventing psychological disorders (Matko & Sedlmeier, 2019).

Practising and maintaining regular meditation is one way people might prioritize positivity within their daily routines. Meditation is a means by which individuals can broaden their minds and experience the positive emotions needed to build personal resources. Many researchers have studied meditation for its benefits for enhancing emotional well-being (Dimidjian & Segal, 2015b).

4.3.1 Loving-kindness Meditation

Loving-kindness meditation (LKM), known as Metta, cultivates an unconditional, kind-hearted attitude towards all beings. LKM incorporates mindfulness, defined as attention purposefully in the present moment and non-judgmental (Kabat-Zinn & Hanh, 2013), and emphasises self-compassion (Thompson & Walt, 2008). Boorstein (2000) defines mindfulness meditation as an attempt to "cultivate composure with a wide focus of attention on all recent experience, internal and external. An attempt is made to be aware of all changing physical sensations, mental states, thoughts, and perceptions while maintaining a nonreactive attitude toward them" (p. 347).

LKM comprises the elements of mindfulness and concentration; however, it has a distinctive attribute which makes it unique from the other two types of meditation. It focuses on emotional valence. According to (Germer et al., 2013), LKM is described as the "quality of mindful awareness – the attitude or emotion – rather than the direction of awareness" (p. 19). This seems to be true considering that the outcomes of meditation are often described as an equanimity, connectedness, and sense of unity with the world around them, which instantly leads the individual to be compassionate, have a deep sense of care, and love for themselves, others, and the whole world (Morgan, Morgan, & Germer, 2013).

The primary psychological process of LKM is to practice generating one's kind intentions to focus on specific targets. This may involve recalling a particular person (e.g., family or a good friend) and silently repeating phrases of positive intention for that person, which include, "May I be happy, may I be well, may I be without suffering." This has been repeated for some time. "May you be happy" or "May you be free from suffering" toward targets. In the next phase, the individual is instructed to conjure the image of a person whom they love dearly and, while holding the person's image in mind, repeat, "May my loved one (or name) be happy, may my loved one (or name) be well, may my loved one (or name) be without suffering." Again, this is repeated for some time. The third phase is often not added until the meditation practitioner has developed some skill with the first two chants, as it is often much more difficult. The targets change gradually from easy to difficult practice. Mostly, the training begins with oneself, followed by loved ones, neutral people, difficult individuals, and finally, all beings. These phrases often include a sequence, which goes, the meditator is finally asked to conjure the image of someone with whom they have had difficulty and asked to repeat, "May my difficult person (or name) be happy, may my difficult person (or name) be well, may my difficult person (or name) be without suffering." Many practitioners apply these phrases (Alba & Williams, 2013; Engström & Söderfeldt, 2010; Kabat-Zinn & Hanh, 2013; Pace et al., 2009; Weng et al., 2013). An intervention called "compassionate mind training" designed to teach self-compassion was beneficial for an individual's well-being (Thompson & Waltz, 2008; Gilbert & Procter, 2006). The phrase loving-kindness designates an emotional state of compassion or kindness rather than romantic love.

LKM is a contemporary meditation that improves well-being, positivity toward strangers, and social connection (Hutcherson et al., 2008; Galante, Galante, Bekkers, & Gallacher, 2014). Also, it reduces problematic conditions like stress, eating disorders, and negative emotions such as anxiety, depression, relapse (Baer, 2003a). It has also been shown that LKM enhances prosocial behaviour in individuals' daily positive emotional experiences and reduces self-criticism (Bankard, 2015; Fredrickson et al., 2008b; Shahar et al., 2014). Similarly, Cloitre et al. (2011) found meditation and mindfulness intervention a practical second-line approach for emotional, attentional, and behavioural disturbance. Meditation practice not only extends to individuals' daily lives but also reduces self-criticism, can reshape individuals' personality traits and prosocial behaviour, and generates positive emotional experiences. LKM training is believed to broaden attention, enhance positive emotions, and lessen negative emotional states (Dalai & Cutler, 1998). LKM can be described as the training of the mind, moved to change people's brief emotional states and reshape their stable personality traits (Davidson et al., 2003), which is fully matched with the broaden-and-build theory. Similarly, Singh et al. (2007) found that mindfulness techniques can self-regulate behaviour in highly negative arousal situations.

4.3.1.1 Loving-kindness Meditation and Positive Emotion

Previous literature reviews on loving-kindness meditation have shown 'highly promising practices for improving positive affect' and psychological well-being (Hofmann et al., 2011). It has 'demonstrated significant improvements' (Shonin et al., 2015: pg.1) on positive emotions, and it 'can foster positive emotions' (He, Chen, & Sun, 2015; Zeng et al., 2015). Positive emotions enhance the arrays of thoughts- actions, urges, and percepts that suddenly come to mind (Armenta et al., 2017). This theory suggests that the capacity to experience positive emotions may be a fundamental human strength central to studying human flourishing. The broaden-and-build theory of positive emotions provides more knowledge on the framework for understanding how LKM practice may affect behaviours, affect, and clinical outcomes (Fredrickson et al., 2008b). The broaden-and-build theory suggests that positive emotions broaden an individual's cognitive and perceptual abilities, allowing for the development of personal resources like mental toughness. This implies that LKM, as a mind-training practice, is not simply a vehicle for improving emotional experiences. The main aim of meditative traditions is to learn about the nature of one's mind and dismiss false assumptions about the causes of one's happiness (Dalai & Cutler, 1998). These insights can invariably

change an individual's basic views concerning others, increasing compassion and empathy. Facing life daily with new outlooks and having an understanding that has been developed through training of the mind practice is what is assumed to enhance one's emotional experience.

In the last five decades, empirical studies on loving-kindness meditation have significantly increased (Galante et al., 2014). One of the significant outcomes of loving-kindness meditation is the enhancement of positive emotions. Positive emotions such as amusement, awe, contentment, gratitude, hope, interest, joy, love, and pride can be increased by loving-kindness meditation (Fredrickson et al., 2008b). Specifically, loving-kindness meditation was considered to generate continuous positive emotions and thereby outpace the hedonic adaptation effect (Diener et al., 2006). People return to their fixed emotional baseline after a brief happiness change (Fredrickson et al., 2008b). This suggests that the hedonic treadmill is based on material things, not the happiness from inside. Fredrickson et al. (2017) conducted an intervention program for nine weeks, cultivating positive emotions with loving-kindness meditation. It was discovered that positive emotions were developing slowly. This gradual progression shows that the positive effects of loving-kindness meditation built resources that allowed for a more positive experience in the future. This suggests that aside from making individuals feel good, experiencing positive emotions such as happiness, joy, and contentment creates many physical, intellectual, and social benefits for the individual (Fredrickson, 2001b; Lyubomirsky et al., 2005); many things surround positive emotions. They can be brief, such as an emotional state, gratitude, joy, contentment, and interest, naturally lasting for only a few minutes. Additionally, positive emotions are more diffuse (Ellsworth & Smith, 1988), less intense, and less attention-grabbing than negative ones (Baumeister et al., 2001). Studies have shown that positive emotions contribute to important downstream life outcomes, which comprise friendship development (Waugh & Fredrickson, 2006b), better physical health (Doyle et al., 2006) and marital satisfaction (Harker & Keltner, 2001). Individuals who experience positive emotions regularly have been revealed to live longer (Danner et al., 2001; Moskowitz, 2003).

Lyubomirsky., (2005) conducted a meta-analysis of almost three hundred participants. It was discovered that positive emotions produce health and success, reflecting these excellent outcomes. Developing the level of positive emotion is an essential experiential objective. Therefore, people must learn to enhance and sustain positive emotions over time. The factors

that make positive emotions effective and persistent are not examined. Furthermore, little is known about how people improve their positive emotions.

Zeng et al. (2015) conducted a meta-analysis of twenty-four empirical studies with 1,759 participants to examine the effect of loving-kindness meditation (LKM) on positive emotions. Their findings revealed a medium effect size for LKM interventions on daily positive emotions, consistent with randomised controlled trials (RCTs) with wait-list controls and non-RCT studies. Furthermore, the duration of the interventions and the time dedicated to meditation did not significantly influence the effect sizes.

Hutcherson et al. (2008) conducted a brief loving-kindness meditation program to explore the effect of LKM on social connections. They revealed that compared with a control group, a brief loving-kindness meditation increased feelings of social connection and positivity toward novel individuals.

4.3.1.2 Loving-kindness Meditation and Psychological Well-being

Loving-kindness meditation could be viewed as a mental exercise, like physical exercise, which needs dedication and regular practice. Psychological well-being should be seen as part of an end product of trainable skills. As people learn to take responsibility for their physical health by exercising regularly, they also learn how to take responsibility for their minds and brains by engaging in specific mental exercises, stimulating plastic changes in the brain. This continues to benefit social and emotional behaviour (Davidson & McEwen, 2012).

In (2009), Johnson et al. carried out a case study to examine the effect of LKM on patients with schizophrenia. Researchers focused on the negative symptoms of schizophrenia with the broaden-and-build theory applied to support the utilisation of LKM. According to the broaden-and-build theory, positive emotions improve our lives through the ripple effects of those emotional states and the experience of the emotions themselves (Fredrickson et al., 2008b). The results were promising, and LKM training had a beneficial effect on the participants. It is worth noting that there were improvements in sociability and motivation. The study also showed the significance and, in some cases, the need for basic mindfulness training before starting LKM practice (Johnson et al., 2009).

Furthermore, Johnson et al. (2011) followed up the case study with a pilot study by utilising quantitative and qualitative data from a treatment satisfaction questionnaire. The results

showed a significant increase in positive emotions (in frequency and intensity) and increased feelings of control, life satisfaction, and self-acceptance, which is more favourable. In addition, the reductions were found in negative global symptoms, especially anhedonia (Johnson et al., 2011).

In another study conducted by (Danucalov et al., 2013), it was noticed that the stress that the caregivers passed through, specifically with their family members suffering from Alzheimer's or dementia's disease, could be distressing. Participants were asked to attend the group for 1.25 hours, three times a week, for three months. One session was a face-to-face intervention; the other two weekly groups were at-home DVD-led sessions. The result showed that LKM was effective in reducing stress levels as well as depression in respondents when compared to the control group.

He et al. (2015) examined the effects of loving-kindness meditation on positive emotions, intragroup interactions, and complex understanding of others. The study comprises fifty first-year students who have yet to have meditation training experience before. They were divided randomly into the meditation group (25 participants) and the control group (25 participants). The participants in the meditation group participated in the group meditation intervention for 30 minutes three times a week for four weeks. It was revealed that the effect sizes were above 0.8 for interpersonal interaction and complex understanding of other meditation groups, which implies a strong effect. This suggests that loving-kindness meditation can effectively improve positive emotions, interpersonal interactions, and complex understanding of others in college students.

Aspy and Proeve (2017) explore the effectiveness of meditation on social connectedness, nature connectedness, and affect. The participants were 115 undergraduate students. Participants listened to one of three Mp3 recordings of brief guided meditation through an online device, which comprises loving-kindness meditation (LKM), mindfulness meditation (MM), or progressive muscle relaxation (control group). At the post-test, participants in the LKM and MM groups reported greater social and natural connectedness than those in the control group. There were no significant differences in connectedness between the MM and LKM groups. LKM has been effective in increasing interpersonal interaction and nature connectedness. This suggests they were both effective in increasing interpersonal

interaction and nature connectedness. In addition, there were also no significant changes in negative or positive affect at post-test due to the interventions.

Regehr et al. (2013) conducted a meta-analysis to identify the effectiveness of various interventions to reduce stress among university students. They found that behavioural, cognitive, and mindfulness interventions were related to lower levels of depression and cortisol and decreased anxiety symptoms. Mindfulness-based interventions have been conducted successfully in university settings (Solhaug et al., 2016; De Vibe et al., 2013; Collard & Mackill, 2007).

Menezes and Bizarro (2015) The study explored the effects of meditation on positive and negative affect, state, and trait anxiety for five days in a nonclinical sample, which was divided into two groups: experimental and control. Results showed that brief meditation training helped improve some psychological variables. The meditation group also reduced negative affect and trait anxiety. Vijayaraghavan and Chandran, (2019) investigate the effect of meditation on people's psychological well-being. The results show that meditation improves students' well-being.

Arunoda, Gunathunga and Yobas (2019) examined the effectiveness of mindfulness meditation programs on selected aspects of health among students. A sample of 64 participants was assigned into two groups. The experiment group received 32, and the control group received 32 Primary Mental Health Questionnaire (PMHQ) with a sociodemographic data form. They used a meditation diary to collect data, and the analyses were done using Paired and Independent t-tests. The study found a significant increase in most positive mental health factors. The result recorded enhanced satisfaction, kindness, happiness, and control over jealousy and anger. Based on the observations and discoveries of the review study, it has been affirmed that loving-kindness meditation and positive emotion are instrumental to psychological well-being. Despite the empirical evidence on the benefits of loving-kindness meditation, studies have shown that LKM remains understudied (Zeng, Chiu, Wang, Oei, Leung., 2015; Zheng, Y., Xiao, He, & Zou, (2020) and 'underpowered and generally under-resourced' (Galante et al., 2018). therefore, it seems prudent to cultivate positive emotions through loving-kindness meditation due to its benefits on mental toughness and psychological well-being.

Altogether, based on this review, positive emotion contributes to important downstream life outcomes, including better physical health, positive relations with people, and marital satisfaction (Waugh & Fredrickson, 2006b; Harker & Keltner, 2001; Doyle et al., 2006), which implies that loving-kindness meditation brings about and improves positive emotion.

4.3.1.3 Loving-kindness Meditation and mental toughness

Haymo and Deol (2017) examine the effect of breathing and meditation on the mental toughness of tennis players by using psychological analysis. The study only comprised Tennis Players, 30 males of Harvest International School aged 15-19 (national participation). The mental toughness questionnaire by Loher's Psychological Performance Inventory was standardised. Areas of Mental Toughness are Attention control, Self-confidence, Attitude control, Motivational level, Visual imagery, and Positive and Negative energy control. It was found that there was a significant difference among all the components of mental toughness.

Another study explores the effect of meditation on mental toughness and competitive sports anxiety among Amravati archery players. The mental Toughness (MTQ48) questionnaire developed by Goldberg was used to measure mental toughness. Twenty male regular archery players aged 18 to 25 were randomly selected. The Sports Competitive Anxiety Questionnaire was used to measure anxiety (Heinssen, Glass & Knight 1987). The statistical analysis revealed that six weeks of meditation programs significantly improved Mental Toughness and competitive sports anxiety among archery players.

Furthermore, (Ekmekci, 2019) states that mental toughness is one of the essential positive psychological constructs in sports. The researcher focused on improving mental toughness levels with mental training and meditation. Participants were six national swimmers aged 15 to 17 years. Pre-tests and post-tests were applied before and after to the swimmers according to the 12-week mental training and meditation program. It is approximately 16% improvement after 12 weeks of mental training and meditation, and they perform 18% better in their competitions. It can be concluded that mental training and meditation improved swimmers' mental toughness scores, making them perform better at training and at the competition.

Parthasarathy and Zelvakumar (2019) investigated the effect of LKM on self-confidence among cricket players. The participants' ages ranged from 18 to 25 years and were divided into the experimental and control groups. A pre-test was taken before the training period, and a

post-test was measured immediately after the six-week training period. The results revealed a significant difference in self-confidence in the experimental group compared to the control group.

Quirk and Ivtzan (2018) conducted a study on the effectiveness of loving-kindness meditation on resilience and well-being in a seven-week intervention practice of LKM, compared to a wait-list control. Results showed a significant increase in psychological resilience in the experimental group and reduced depression, anxiety, and stress, while the control group's changes remained insignificant. The results and previous literature recommend that LKM practice is an effective strategy for improving employee adaptability to stress at work, increasing employee value, and building resilience. The associations with mindfulness meditation and resilience and the early promise of LKM suggest that meditative approaches are worthwhile options for building resilience and well-being in the workplace.

Walker (2016) explored the relationship between mindfulness and mental toughness among 484 female adolescent hockey players. The questionnaire was completed based on mindfulness and mental toughness. The result revealed that mindfulness significantly correlates with mental toughness, confidence, control, and constancy. The ANOVA and the relevant post hoc analyses indicated that athletes in the high mindfulness group reported significantly higher levels of control and general mental toughness than those in the other three groups. The participants in the group of high mindfulness were reported to have significantly higher levels of constancy than those in the medium and low mindfulness groups. Linder (2021) explores the potential for mindfulness protective factors in developing and maintaining resilience. Results revealed that mindfulness is fundamental to resilience by investigating linkages between mindfulness and resilience.

Jagtap (2021) investigated the effect of meditation on mental toughness and competitive sports anxiety among archery players—twenty male regular archery players of 18 to 25 years of age. To determine the effect of meditation on mental toughness and sports competitive anxiety among archery players, an independent and dependent 't-test was employed for each selected variable separately. The level of significance was set at 0.05 to assess the hypothesis. The statistical analysis revealed that six weeks of meditation programs significantly improved Mental Toughness and competitive sports anxiety among archery players.

Based on the available evidence, the literature suggests that LKM and other forms of meditation can positively impact positive emotions, psychological well-being, and mental toughness. Hence, this study aims to contribute to the research gap by examining the impact and effectiveness of meditation on positive emotion, psychological well-being, and mental toughness.

4.4 Aims

The current study aims to evaluate the impact and effectiveness of meditation in cultivating positive emotions, developing mental toughness, and enhancing psychological well-being among university students.

4.4.1 Objectives

The objective is to measure the impact and effectiveness of meditation on positive emotion, mental toughness, and psychological well-being.

Hypotheses

It was hypothesised that mental toughness might increase with the application of meditation.

It was hypothesised that meditation would improve psychological well-being.

It was hypothesised that increases in positive emotion at post-test would be observed.

Method

4.4.2 Participants

The participants in this study 2 comprised 62 students who engaged in a four-week LKM intervention at Manchester Metropolitan University and students from other Universities. The participants in the control group were 26, while the remaining 36 were in the experimental group. Participants were both male and female. Attrition was monitored to assess participant adherence, with engagement metrics capturing the frequency and duration of meditation sessions.

4.4.3 Design and Setting

The present study employed a quasi-experimental design with pre-test, midpoint, and post-test measurements. Quasi-experimental designs resemble true experiments but lack random assignment of participants to conditions (Cook & Campbell, 1979). This approach allows researchers to evaluate the causal effects of interventions on target populations while maintaining control over treatment assignment, albeit using criteria other than randomisation (Derue et al., 2012).

Quasi-experimental designs offer several advantages, particularly in small sample sizes, when control groups are unavailable or impractical, or when randomisation is not feasible. These designs are often preferred for their practicality and applicability to real-world settings, allowing researchers to assess the effects of quasi-independent variables under naturally occurring conditions.

A quasi-experimental research design was employed instead of a randomised design. Practical constraints and ethical considerations guided this decision during the COVID-19 pandemic. Randomised controlled trials (RCTs) are widely regarded as the most stringent method for establishing causality, as they reduce bias by randomly assigning participants. However, the unprecedented circumstances of the COVID-19 pandemic presented challenges to conducting RCTs in the study; the restrictions on gatherings and logistical challenges made it difficult to implement random assignment effectively, which led to numerous practical and ethical obstacles to the methodology. The pandemic restricted participant access, limited resources, and increased concerns for personal safety (Ployhart & MacKenzie, 2020). In this situation, strict adherence to the randomisation criteria would likely have reduced participant recruitment, noncompliance, or attrition, thus compromising the validity of the findings. Despite adopting a quasi-experimental design, there was an attrition in the study. Group allocation was based on participant preference and proved a more feasible alternative. This method addressed participants' worries while enhancing their involvement and adherence, which is essential during the pandemic's disruption of regular routines.

Group allocation according to preference was regarded as a practical option to maintain the study's continuity while safeguarding the integrity of the data collection procedure. Permitting group selection based on preference aligns with the ethical principle; this approach allows for respect for autonomy and increased engagement and compliance with the study protocol

(Shadish, Cook, & Campbell, 2002). It acknowledges that, in these exceptional circumstances, participants' independence in decision-making may promote greater commitment to the intervention, hence improving the ecological validity of the results. Therefore, although a randomised design is often optimal, the quasi-experimental method was essential and warranted due to the distinctive obstacles posed by the epidemic.

Statistical methods, including propensity score matching, were employed to reduce selection bias and account for potential confounders, ensuring the findings' robustness despite the quasi-experimental design (Rosenbaum & Rubin, 1983). The current study's design was chosen for its ability to balance experimental control with ecological validity, making it well-suited for evaluating the effects of a meditation intervention in a naturalistic setting. This approach enabled the researchers to examine mental toughness, positive emotions, and psychological well-being changes over time while acknowledging the limitations inherent in non-randomized group allocation.

The study's independent variable is LKM. The dependent variables comprise mental toughness, positive emotions, psychological well-being, and the components of mental toughness, specifically confidence, commitment, challenge, and control. The study lasted about four weeks. The intervention was delivered to the participants who wanted to participate in the meditation task. The comparative group was in the control group. The effectiveness of meditation was evaluated at three intervals to know if there was an increase in the level of positive emotions, mental toughness, and psychological well-being among the participants. Data assessment took place at baseline, at the middle and post-intervention. ANOVA tests were conducted to examine changes across the three-time points for each psychological variable. Post-hoc tests (Tukey and Holm-Bonferroni corrections) were used for pairwise comparisons when a significant effect was found. Normality checks were conducted using the Shapiro-Wilk test, with adjusted reporting on engagement and attrition.

4.5 Measures

4.5.1 Mental Skills Assessment Questionnaire

The Mental Skills Assessment Questionnaire (MSAQ) developed by Patrick and Hrycaiko (1998) was employed to measure mental skills use before and during the intervention. The MSAQ consists of eight "yes" or "no" questions about using mental skills learned through

the mental toughness training intervention. Two questions about goal setting (e.g. "Did you set any goals before/during your intervention?"), and another set pertains to positive self-talk (e.g. "Did you perform any positive self-talk prior to/during your intervention?"), two questions pertain to mental imagery (e.g. "Did you use imagery prior to/during your intervention?"), and two questions pertained to relaxation (e.g. "Did you perform a relaxation technique prior to/during your intervention?"). The percentage of mental skills reported by each participant was recorded to monitor the use of mental skills over time. Although the MSAQ is not a validated instrument, numerous previous studies have used this questionnaire to help remind and encourage participants to employ these psychological skills learned through the mental toughness training intervention both before and during competition in spot (Thelwell & Greenless, 2001; Thelwell & Maynard, 2003). Although this questionnaire has been used for athletes during competition, it was used in the present study to monitor the use of psychological skills during and after the intervention.

4.5.2 Modify Differential Emotion Scale

The Modify Differential Emotion Scale mDES (Fredrickson et al., 2003b) was used to assess positive emotions and negative emotions. Fredrickson modified the Differential Emotions Scale (DES) (Izard, 1977) to cope with the increasing need for positive emotions measurement. These include a broader range of positive emotions, assisting in scientific research. Building on the previous work (Keltner & Shiota, 2003), Fredrickson added eight discrete positive emotions: amusement, awe, contentment, gratitude, hope, love, pride, and sexual desire. These combined joy, interest, and eight negative emotions plus surprise, all appearing in the original DES questionnaire. She also added an item to measure sympathy. In addition to measuring discrete emotions, Fredrickson used item analyses to create separate aggregate subscales for positive and negative emotions. Galanakis et al. (2016) convert the instrument to a Greek version. They discovered that the Positive Emotions subscale is a composite of nine positive emotions (all but awe), with a coefficient $\alpha = 0.79$. The Negative Emotions subscale is a composite of 7 negative emotions (all but embarrassment), with a coefficient $\alpha = 0.69$. In addition, (Fredrickson et al., 2008b) found the Reliability for both positive and negative emotions ($\alpha = .89$ for positive and $\alpha = .78$ for negative), which were acceptable. The modified DES has shown acceptable validity and agreement with other affected measures and changes in response to intervention. Participants will be asked to recall and rate their strongest experience of each of 20 specific emotions on a 5-point Likert scale (1—Not at All to 5—

Extremely) for the past two weeks. Self-report clarity about the meditation will be assessed at the intervention session's start and end.

4.5.3 Psychological Well-Being

PWB was assessed using the 42 items of the PWB Scale (Ryff & Keyes, 1995); (Sirigatti et al., 2016). The six original subscales were used: Autonomy (seven items, e.g., "In general, I feel I am in charge of the situation in which I live"), Personal Growth (seven items; e.g., "For me, life has been a continuous process of learning, changing, and growth"), and Self-Acceptance (seven items; e.g., "I like most aspects of my personality"). Items were rated on a 6-point Likert scale ranging from 1 (strongly disagree) to 6 (strongly agree), with some items reversed-scored. The PWB Scale and its subscales have been accepted to have good validity and reliability across various cultures (Žukauskienė, Kaniušonyte, Truskauskaite-Kuneviciene, & Malinauskiene, 2015).

4.5.4 Mental toughness MTQ48

MTQ48 (Clough et al., 2002) measured mental toughness. The questionnaire took an average of around 10 minutes to complete. The tool consisted of a 48-item inventory, which required response statements on a 5-point Likert scale varying from (1) strongly disagree to (5) strongly agree. The overall scores for mental toughness and its six subscales were calculated. The MTQ48 has been widely used to measure mental toughness and has generally been found to have good reliability and establish concept and criterion validity (Clough et al., 2002; Perry et al., 2015). Furthermore, Horsburgh et al. (2009) also confirm the independent support for the factor structure of the MTQ48 that has been found using confirmatory factor analysis. Altogether, mental toughness is not only about performance; it is about enjoying life and fully optimising potential.

4.5.5 Social Validation Questionnaire

Social validation refers to participants' perceptions about the effectiveness of an intervention (Fournier et al., 2005). The Social Validation Questionnaire developed by (Thelwell & Greenlees, 2001) was used to assess each participant's overall satisfaction with the mental toughness training intervention at the end of the intervention program. Using a 5-point Likert-type scale (1 = "not at all useful" and 5 = "extremely useful"), participants were asked to respond to a series of 13 questions about the importance and significance of the changes they

experience, the development of psychological skills related to mental toughness, their satisfaction with the mental toughness training intervention, and the overall effectiveness of the study. The participants rated the programme based on the following questions: (a) How important is it for you to improve your well-being? (b) How important is it for you to improve your mental toughness? (c) How important is it to improve self-confidence? Participants would also be allowed to add comments regarding their thoughts on the intervention. The Social Validation Questionnaire allowed the researcher to gain a better understanding of the overall effectiveness of the intervention:

4.6 Experimental Design

4.6.1 Intervention

A loving-kindness meditation script was adapted from the literature (Hall, 2013). Some psychological skills such as goal setting, positive self-talk, mental imagery, and visualisation were added to the scripts. The mental imagery and visualisation scripts were adapted from psycho-cybernetics, which was originated by (Maxwell Maltz, 2015). The goal-setting and positive self-talk were adapted from (Strycharczyk & Clough, 2014). These scripts were made in audio form and included in a guided meditation. The psychological skills were chosen as they are the most commonly identified for enhancing high performance in every area of life (Strycharczyk & Clough, 2014; Mamassis & Doganis, 2010; Patrick & Hrycaiko, 1998).

A native English speaker recorded the script in audio form. An isochronic tone and binaural beat, known as brainwave entertainment, were mixed with raindrops as a background sound for the guided meditation. This would entertain the brainwave frequencies to enhance focus and concentration (Siever et al., 1987). This background sound would make the meditation environment more serene and naturalistic. The isochronic tone environment may help to get beyond the analytical mind, which is the beta brainwaves (conscious mind), to slow down the brainwave movement of alpha brainwaves to theta brainwaves (subconscious mind) (Hutchison, 1981).

Incorporating binaural beats, isochronic tones, and raindrop sounds into Loving-Kindness Meditation (LKM) represents a ground-breaking fusion of contemporary sound engineering and traditional meditative practices. This innovative approach employs the power of modern technology to enhance the ancient wisdom of meditation, potentially offering practitioners a

more accessible and effective path to mindfulness and compassion. Recent research has demonstrated the significant benefits of sound-based meditation techniques. Goldsby et al. (2017) found that Tibetan singing bowl meditation led to substantial reductions in tension, anger, fatigue, and depressed mood compared to pre-meditation states. This evidence suggests that sound meditation can be particularly effective for beginners, offering a more accessible entry point into meditative practices.

Neurological research supports the integration of specific sound technologies in meditation practices. Elena Bradford, a yoga teacher trained in sound healing, reports that sound can facilitate a quicker transition from beta (analytical thinking) to theta (deep meditation) brainwaves (National Geographic, 2020). This rapid shift in brain state can be particularly beneficial in our fast-paced, modern world, where time for meditation may be limited.

Using binaural beats and isochronic tones in meditation represents a significant advancement in the field. These technologies, developed in the latter half of the 20th century, aim to influence brainwave patterns through auditory stimulation. Huang and Charyton (2008) describe binaural beats as a contemporary approach to inducing specific brainwave states associated with relaxation and meditation. Similarly, isochronic tones, based on the ancient concept of rhythmic entrainment, utilise precise, computer-generated pulses to influence brain activity, offering a new tool for enhancing focus and attention during meditation. Integrating these sound technologies with LKM creates a powerful synergy between ancient wisdom and modern science. This approach maintains the core principles of LKM while leveraging contemporary advancements to enhance its effectiveness. As Van Dam et al. (2018) mentioned, the integration aligns with the growing trend of combining traditional practices with the current scientific understanding of mindfulness and meditation. One of the most significant advantages of this integrated approach is its potential to increase accessibility and adherence to meditation practices. The enjoyable nature of sound-enhanced meditation may lead to better long-term practice adherence, particularly for those who struggle with traditional silent meditation techniques. Thouin-Savard (2019) suggests that integrating sound technologies into meditation practices offers practitioners a modern tool to access deep meditative states more quickly, making traditional practices more accessible and effective in our technology-driven world.

While some may argue that sound-based meditation might divide attention or hinder the development of deep concentration, it is important to note that this integrated approach is not meant to replace traditional silent meditation entirely. Instead, it offers an additional tool to complement and enhance existing practices, particularly for beginners or those who struggle with conventional techniques. Integrating sounds, binaural beats, isochronic tones and raindrops into Loving-Kindness Meditation represents an appropriate blend of traditional wisdom and contemporary neuroscientific advancements. This innovative approach honours the ancient practice of Loving-Kindness Meditation while leveraging modern technology to potentially enhance its benefits. By making meditation more accessible, enjoyable, and potentially more effective, this integrated approach offers a promising path forward in our quest for mindfulness and compassion in the modern world. As research in this field continues to grow, it can be expected to see further refinements and applications of these technologies, potentially revolutionising the way meditation and psychological well-being has been approached

This study involved a meditation exercise for four weeks of psychological skill training intervention. However, Weinberg and Williams (2010) recommended that 3-6 months of training would provide the necessary time to learn psychological skills. Studies have shown that longer interventions are more effective. However, some studies still show a successful brief meditation. practice (Nagamatsu & Ford, 2019; Zeidan et al., 2010). Due to the pandemic, the present study involved brief meditation training to encourage students to participate.

Participants in the experimental group were asked to complete some weekly activities over the four-week course. The activities (task) were released via an email to the qualtrics daily for four weeks and six days for meditation. It took about 30 minutes, and the participants were asked to take one day off. The tasks comprised the completion of some questionnaires and doing the 24 sessions of meditation over the 4 weeks as they were directed. They completed an online questionnaire on three occasions: at baseline, week 2 and week 4 at the end of the meditation intervention. One of the questionnaires was on mental toughness. The other two were questionnaires on positive emotion and psychological well-being. The questionnaires took about 20 minutes of their time, and the meditation was around 30 minutes. The participants were asked to start the guided meditation practice on meditation, which was in audio form. Participants were asked to keep a personal journal (diary) by writing a few lines and recording

their accomplishments daily, no matter how small, to monitor their personal development progress. The diary was for their personal use, and the researcher did not need to see the diary.

Participants in the experimental group were only allowed to access the meditational scripts. Participants in the experimental group were asked to keep a diary of their personal development and acquiring skills. While the participants in the control group were on the waiting list, their well-being was measured over the course of 4-weeks. They were asked to complete the questionnaires at the beginning of the study, in the middle (week 2) and at the end (week 4). However, they were allowed to access the program at the end of the intervention program. It was expected that changes would only be observed in participants undergoing the intervention while the participants in the control group remained stable (Barker et al., 2011).

Meditation instructions were first presented over headphones and lasted about 30 minutes. The first five minutes of the meditation set goals on what they would love to achieve at the beginning of the intervention. Participants were asked to set goals for cultivating positive emotions, mental toughness, and psychological well-being. The goals mentally reflected the achievements after the intervention: "What do I want," and the answer would be "In the next 4 weeks, I wanted to enhance well-being". By this answer, the participants were priming their brains on what to do. After answering the question, the participants started the intervention by practising the audio scripts. During the last week of the intervention, week 4, the meditation practice was around 60 minutes for three days. It summarises the meditational practice completed in the course.

Table 5 Meditation Table exercises

WEEK 1	
MEDITATION 1 Goal setting and breathing exercises The intervention started with goal setting and breathing exercises. The participants were asked to breathe in through their diaphragms. This exercise helped them be aware of their body and pay attention to the present moment, which would aid the preparation for practising loving-kindness meditation later in the meditational sections.	**MEDITATION 2** Loving-kindness body scan During this section, participants were asked to take a deep breath in and out and close their eyes. They were then asked to send lovingkindness to all parts of their bodies. Participants were asked to repeat certain phrases, such as "May my head be filled with love," "May my hair be filled with love," and "May my heart be filled with love."
WEEK 2	
MEDITATION 3 Gratitude In this section, the participant was asked to repeat different phrases of gratitude and appreciation. They were asked to repeat different phrases of gratitude for their body and life: "I am grateful for my heart and brain,""I am grateful for my breath."	**MEDITATION 4** Loving-kindness meditation In this section, loving-kindness meditation was introduced to the participant. Participants were asked to receive love from a compassionate being. They were now asked to direct love to themselves, followed by instructions to imagine two loved ones standing on either side of the participant and sending the participant their love. Then, participants were asked to redirect these feelings of love and compassion toward their

	loved ones, acquaintances, and the whole world.

WEEK 3	
MEDITATION 5 Positive self-talk and positive thinking affirmations In this session, participants were asked to repeat different phrases of affirmation on positive self-talk, and they were asked to think about the positive affirmations, which "include I am lovable," "I am unlimited," and "I am in control of my life."	MEDITATION 6 Mental toughness and psychological well-being This section was based on a guided meditation on mental toughness and psychological well-being. Participants were asked to repeat phrases on the components and dimensions of mental toughness and psychological well-being, such as "May I be confident" and "May I be committed to my daily task." Throughout the meditation, participants were asked to repeat phrases wishing the targets the domains of mental toughness and psychological well-being.
WEEK 4	
MEDITATION 7 Visualisation and mental imagery	MEDITATION 8 Meditation summary

Visualisations begin with the instruction to close the eyes, relax, and take deep breaths. The participants were asked to create a mental image of the skills they wanted to develop. This mental image was like a mind movie, and this would activate the neurons in the brain, and the interpretation of the imagery is equal to a real-life action. The brain produces an impulse during visualisation, which informs the neurons to complete the movement. It creates a new neural pathway cluster of cells in the brain that work together to create memories or learned behaviours. This occurs without performing physical activity, yet it achieves a similar result as if we had done it.

Once the researcher had introduced each of the skills, the fourth week was used to practice all the skills together: these skills and various standardised performing exercises were geared towards cultivating positive emotions and improving one's mental toughness and psychological well-being. The student was encouraged to work through the exercises in their own time to develop greater competence in the methods of goal setting, meditation, positive self-talk and positive thinking, mental imagery, and visualisation.

Figure 7 MEDITATION FLOW CHART

| Baseline Assessment
•Participants fill sociodemographics form | → | Participants fill in online questionnaire | → | Week 1
•Meditation 1
•Meditation 2 |

| Week 3
•Meditation5
•Meditation 6 | ← | Midline Assessment
•Participants fill in online questionnaire | ← | Week 2
•Meditation 3
•Meditation 4 |

| Week 4
•Meditation 7
•Meditation 8 | → | Endline Assessment
•Participants fill in online questionnaire |

A visual summary of the meditation exercises

4.6.2 Power analysis

A power analysis was conducted using G*Power 3.1.9.2 (Faul et al., 2007) to determine the required sample size to detect a small effect size across three primary variables: Mental Toughness (MT), Positive Emotion (PE), and Psychological Well-Being (PWB). The analysis was based on Cohen's d = 0.25, α = .05, and power (1 - β) = .80.

Results indicated that a sample size of 28 participants would be sufficient to achieve 80% power for detecting a small effect size across pre-, mid-, and post-test assessments. To enhance the study's robustness and support reliable between-group comparisons, the sample size was increased to 62 participants (meditation = 36, control = 26). This expanded sample ensures adequate power to identify significant changes and differences between the meditation and control groups across the three key outcome variables (MT, PE, and PWB) over time.

4.6.3 Experimental Procedure

The sample comprised 62 university students from Manchester Metropolitan University and other places. The participants were allocated into two groups (experimental and control groups). The first set of participants was allocated to the experimental group, while the remaining were on the waiting list, which served as the control group. Participants in the experimental group were asked to keep a personal journal (diary) by writing a few lines and recording all their accomplishments, no matter how small, daily to track their progress in personal development. The level of mental toughness, positive emotion and psychological well-being were assessed through MTQ48, mDES, and Ryff's PWB questionnaires measured over four weeks using pre-, middle, and post-intervention experimental design. The participants were asked to fill out the questionnaire about psychological skills (MSAQ) and the clarity and understanding of the intervention. A social validation questionnaire was also used to ask for the participants' feedback. Data was collected and analysed.

Figure 8 EXPERIMENTAL FLOW CHART
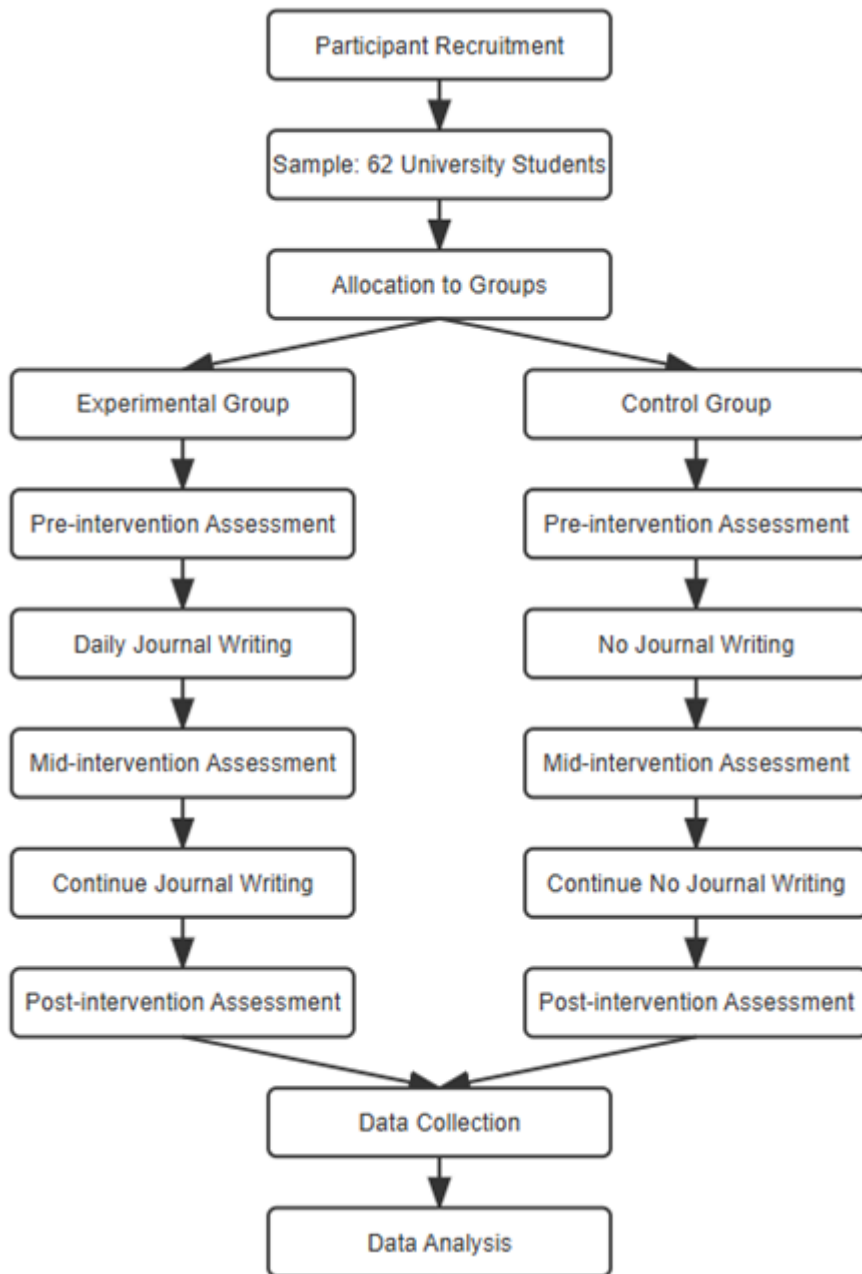
Pre-experimental session

All participants must complete the MSAQ, MTQ48, mDES and PWB questionnaires before the experimental session. In addition, the component of mental toughness (4C) was measured through MTQ48.

Recruitment

To recruit participants, students at Manchester Metropolitan University were recruited through the Psychology department's research participant pool. In addition, university students from other institutions were recruited through social media to avoid slow recruitment due to the pandemic period. Recruitment through social media was done in line with the British Psychological Society's guidelines on recruitment through social media. The social media accounts were not personal but professional and related to the project. The social media platforms included Twitter, LinkedIn, professional Instagram, and Facebook.

Students willing to participate in the study were asked to contact the researcher via email. The researcher then sent a link to the participants on the recruitment page, comprising the participant information sheet and consent form hosted on Qualtrics. The participants who signed the consent form participated in the study and completed the questionnaires and meditation exercises as directed on Qualtrics over the 4-week intervention. Participants received an email that comprised the meditation exercises for the day. Participants received 24 emails comprising activities and questionnaires for 6 days each week over the 4 weeks.

The participants were asked to complete the questionnaires at the baseline, midpoint of the study (2 weeks), and end of the intervention. Participants who needed one-on-one guidance were allowed to contact the researcher by email. Data were collected after the required number of participants was reached, and an online written debrief about the study was sent to the participants.

Ethics

Approval to conduct the present study was obtained from the Research Ethics Board at Manchester Metropolitan University for ethical approval.

Data Analysis Plan

Data Collection and Preparation: Data were collected via an online survey using Qualtrics and subsequently exported to Microsoft Excel 2019 and SPSS Statistics Version 26 for analysis. Initial data screening was conducted following the methods outlined by Tabachnick and Fidell (2007). Missing data were imputed using expectation maximisation. Normality was assessed using Shapiro-Wilk tests, and univariate outliers were transformed prior to analysis. Reliability Analysis: The internal consistency reliability for each scale and subscale was evaluated using Cronbach's alpha coefficients (Cronbach, 1951). Descriptive Statistics: Demographic characteristics of participants were summarized using descriptive statistics, including frequency counts, percentages, means, and standard deviations. Main Analysis: A 2 (Group: meditation vs. control) × 3 (Time: baseline, midpoint, endpoint) mixed ANOVA was conducted for each outcome measure: mental toughness, positive emotions, and psychological well-being. This analysis examined the main and interaction effects of meditation and study time on these variables (Kazdin, 2010). Measurement points were established at baseline (t0), immediately before the start of the 4-week intervention; at midpoint (t1), two weeks into the intervention; and at endpoint (t2), after the 4-week intervention. Post-hoc Analyses: In cases where significant effects were found, post-hoc analyses were conducted using the Holm-Bonferroni method to control for familywise error rates. Effect Size Calculation: Effect sizes were calculated using partial eta squared ($\eta^2 p$) for ANOVA results. For pairwise comparisons, Cohen's d was computed. Effect sizes were interpreted using Cohen's recommendations: 0.2 as small, 0.5 as medium, and 0.8 as large (Cohen, 1988). Engagement and Attrition: Participants were encouraged to meditate daily, with an average session length of 15-20 minutes. The final sample consisted of 62 participants. Engagement levels varied, with adherence reported by self-tracking. Qualitative Data Analysis: Data from participants' online interactions were analysed using quantitative techniques with SPSS software to provide insights into both the process (participants' impressions of intervention delivery) and content (participants' experiences of the intervention) (Arkkelin, 2014; Denscombe, 2007). This comprehensive approach ensures a thorough analysis of the data, addressing both quantitative and qualitative aspects of the study, while maintaining academic accuracy and adherence to established statistical practices

Results

Descriptive Statistics

SECTION A: DEMOGRAPHIC CHARACTERISTICS OF RESPONDENTS

A total of sixty-two (62) participants took part in the study. Thirty-six (36) were in the meditation group, and control twenty- six (26) were in the group. A chi-square association test was carried out to assess the distribution of participants' characteristics between the control and meditation groups. The result showed that there was no difference in the participants' characteristics concerning all demographic characteristics, that is, sex, age, ethnicity, and academic level ($p > 0.05$) (Table 7). This implies that the two groups were not different in their demographic characteristics.

Table 6: Demographic Characteristics of Study Participants

		Control (N = 26)		Meditation (N = 36)		Total (N = 62)		
		Freq.	%	Freq.	%	Freq.	%	p[a]
Gender	Male	17	65.4	15	41.7	32	51.6	0.134
	Female	9	34.6	21	58.3	30	48.4	
Age	18-24	12	46.2	19	52.8	31	50.0	
	25-35	9	34.6	9	25.0	18	29.0	0.705
	36+	5	19.2	8	22.2	13	21.0	
ethnicity	White English	2	7.7	4	11.1	6	9.7	0.482
	White European	2	7.7	3	8.3	5	8.1	
	Mixed White and Black African	5	19.2	3	8.3	8	12.9	
	Black	11	42.3	18	50.0	29	46.8	
	Any other Black background	6	23.1	8	22.2	14	22.6	
Year in University	First-year	2	7.7	4	11.1	6	9.7	0.811
	Second year	5	19.2	6	16.7	11	17.7	
	Third year	8	30.8	10	27.8	18	29.0	
	Fourth-year	11	42.3	16	44.4	27	43.5	

Normality Tests

Shapiro-Wilk tests indicated that mental toughness scores were approximately normal at baseline and midpoint (p > .05) but deviated from normality at the endpoint (p < .05). Positive emotions and psychological well-being showed deviations from normality at all time points (p < .05). The p-values for each Shapiro-Wilk test were greater than the conventional significance level of 0.05, indicating that none of the distributions significantly deviated from normality.

Table 7 Shapiro-Wilk Normality Test Results

Measure	Time Point	W	p
Mental Toughness	Baseline	0.9896	.882
	Midpoint	0.9770	.295
	Endpoint	0.9379	.004
Positive Emotions	Baseline	0.9370	< .001
	Midpoint	0.9513	.003
	Endpoint	0.9418	< .001
Psychological	Baseline	0.9395	< .001
Well-being	Midpoint	0.9614	.014
	Endpoint	0.8934	< .001

Note. W = Shapiro-Wilk test statistic; p = p-value. Values < .05 indicate significant deviation from normality.

Table 8 Summary of Results for Mental Toughness, Psychological Well-being, and Positive Emotions

Measure	Group	Baseline M (SD)	Midpoint M (SD)	Endpoint M (SD)	F	p	η²p	Post-hoc
Mental Toughness	Meditation	3.46 (0.53)	3.59 (0.49)	3.76 (0.59)	9.73	< .001	.140	.003*
	Control	3.33 (0.46)	3.32 (0.45)	3.24 (0.57)				ns
Psychological	Meditation	171.28 (32.52)	177.44 (31.21)	183.83 (35.76)	11.89	< .001	.165	.003*
Well-being	Control	168.04 (27.89)	165.54 (27.41)	163.58 (25.81)				ns
Positive Emotions	Meditation	40.97 (7.51)	39.94 (7.89)	42.19 (6.24)	7.52	.001	.111	ns
	Control	37.69 (6.89)	33.54 (7.96)	33.69 (7.16)				.009*

Note. M = Mean; SD = Standard Deviation; F = F-statistic for Time × Group interaction; p = p-value; η²p = partial eta squared (effect size); ns = not significant. Holm-Bonferroni correction was applied for multiple comparisons within each measure.

A 2 (Group: meditation vs. control) × 3 (Time: baseline, midline and endpoint) mixed ANOVA was conducted for each outcome measure: mental toughness, psychological well-being, and positive emotions. Post-hoc analyses were performed using Holm-Bonferroni corrections for multiple comparisons.

Hypothesis 1: Mental toughness might increase with the application of meditation

Mental Toughness

A significant main effect of Time was found, $F(2, 120) = 3.15$, $p = .046$, $\eta^2p = .050$. The main effect of the Group was also significant, $F(1, 60) = 4.82$, $p = .032$, $\eta^2p = .074$. Importantly, there was a significant Time × Group interaction, $F(2, 120) = 9.73$, $p < .001$, $\eta^2p = .140$.

Post-hoc analyses revealed a significant increase in the meditation group from baseline ($M = 3.46$, $SD = 0.53$) to endpoint ($M = 3.76$, $SD = 0.59$), $p = .009$. The control group showed no significant changes from baseline ($M = 3.33$, $SD = 0.46$) to endpoint ($M = 3.24$, $SD = 0.57$).

There is strong evidence to support this hypothesis. The risk of Type I error (false positive) is low due to the highly significant p-value and moderate effect size.

Hypothesis 2: Meditation would improve psychological well-being.

Psychological Well-being

The analysis revealed a significant main effect of Time, $F(2, 120) = 4.26$, $p = .016$, $\eta^2p = .066$, and a significant main effect of Group, $F(1, 60) = 5.37$, $p = .024$, $\eta^2p = .082$. A significant Time × Group interaction was also found, $F(2, 120) = 11.89$, $p < .001$, $\eta^2p = .165$.

Post-hoc analyses showed a significant increase in the meditation group from baseline ($M = 171.28$, $SD = 32.52$) to endpoint ($M = 183.83$, $SD = 35.76$), $p = .009$. The control group demonstrated no significant changes from baseline ($M = 168.04$, $SD = 27.89$) to endpoint ($M = 163.58$, $SD = 25.81$).

Similar to mental toughness, there is strong evidence to support this hypothesis. The risk of Type I error is low due to the highly significant p-value and moderate to large effect size.

Hypothesis 3: Increases in positive emotion at post-test would be observed.

Positive Emotions

The analysis showed no significant main effect of Time, $F(2, 120) = 1.87$, $p = .158$, $\eta^2p = .030$. However, there was a significant main effect of Group, $F(1, 60) = 6.14$, $p = .016$, $\eta^2p = .093$, and a significant Time × Group interaction, $F(2, 120) = 7.52$, $p = .001$, $\eta^2p = .111$.

Post-hoc analyses revealed no significant changes in the meditation group from baseline (M = 40.97, SD = 7.51) to endpoint (M = 42.19, SD = 6.24) after Holm-Bonferroni correction. However, the control group showed a significant decrease from baseline (M = 37.69, SD = 6.89) to endpoint (M = 33.69, SD = 7.16), p = .027.

This hypothesis is partially supported. While the meditation group did not show significant increases, they maintained their levels of positive emotions while the control group decreased. The meditation group is at a higher risk of Type II error, as the lack of significant increase might be due to insufficient power or the conservative nature of the Holm-Bonferroni correction.

The results strongly support the effectiveness of meditation for improving mental toughness and psychological well-being. The findings for positive emotions suggested a protective effect of meditation rather than an increase.

Regarding the Type I error, there is a low risk for mental toughness and psychological well-being due to highly significant results. The Type II error risk is higher for positive emotions, specifically for the meditation group, as the lack of significant increase might be due to insufficient power or strict correction methods.

Summary of the result

The results support the hypotheses that loving-kindness meditation can enhance mental toughness and psychological well-being among university students. Both mental toughness and psychological well-being showed significant improvements in the meditation group from baseline to endpoint, while the control group showed no significant changes.

The hypothesis regarding positive emotions was partially supported. While the meditation group did not show significant increases in positive emotions, they maintained their levels throughout the study. In contrast, the control group experienced a significant decrease in positive emotions over time, suggesting meditation might protect against declining positive affect. These findings indicate that a 4-week loving-kindness meditation intervention can effectively improve mental toughness and psychological well-being among university students, while potentially buffering against decreases in positive emotions.

Engagement and Attrition

Participants were encouraged to meditate daily, with an average session length of 15-20 minutes. The attrition rate was calculated based on dropouts, leading to a final sample of 62 participants. Engagement levels varied, with adherence reported by self-tracking; however, specific frequency and duration metrics were not comprehensively recorded across all participants.

Meditation Intervention Engagement

The frequency, duration, and attrition rates of participant engagement with the meditation intervention:

Frequency: The study comprises of two groups of participants:

Control Group   1: 26 participants

Meditation Group 2: 36 participants

Duration: The mean duration of change in mental toughness scores (MTQ) from baseline to endpoint is 0.1045. This suggests a slight overall increase in mental toughness scores across the study period.

Attrition Rate: The specific attrition data at all stages is not available, but 221 signed up for the study, and only 62 progressed to completion. An attrition rate of 72%

Discussion

This study aimed to evaluate the impact and effectiveness of a meditation intervention on mental toughness, psychological well-being, and positive emotions in university students. This research aimed to determine if a 4-week meditation course affected mental toughness, positive emotion, and psychological well-being. Specifically, the current study sought to answer the following hypothesis questions: The first hypothesis stated that "meditation significantly increases mental toughness." The second hypothesis stated that "meditation significantly increases positive emotions." The third hypothesis stated that "the meditation will significantly increase psychological well-being." The main result of this study was that, in comparison to the control group, the meditation group improved in positive emotion, mental toughness and psychological well-being after the intervention. This is the first study exploring meditation, specifically loving-kindness meditation. There was a trend in mental toughness and psychological well-being. The results of the Holm-Bonferroni post-hoc comparisons provide insights into the differential effects of the meditation intervention and control group over time.

Changes in Mental Toughness Over the Intervention

The first hypothesis posited that meditation would significantly increase mental toughness. The results revealed a significant main effect of Time and a significant Time × Group interaction. This interaction indicates that the Loving-Kindness Meditation (LKM) intervention had a differential impact on mental toughness over time between the meditation and control groups.

Post-hoc analyses revealed that the meditation group significantly increased mental toughness from baseline to endpoint. In contrast, the control group exhibited no significant changes. This finding suggests that Loving-Kindness Meditation (LKM) may be an effective tool for cultivating mental toughness in university students, which can be beneficial for coping with academic stress, enhancing resilience, and promoting persistence in the face of challenges (Kabat-Zinn, 2003).

The significant improvement in mental toughness observed in the meditation group aligns with previous research on related psychological constructs. For instance, Moss et al. (2020) found that meditation significantly predicts resilience, implying potential therapeutic interventions. Similarly, Haymo and Deol (2017) reported significant improvements in all components of mental toughness among tennis players who practiced breathing and meditation techniques.

Ekmekçi and Miçooğullari (2019) also found that mental training and meditation improved swimmers' mental toughness scores, enhancing their performance in training and competition.

Although the current study focused on overall mental toughness rather than its components, the observed improvements are consistent with findings from related fields. For example, Quirk and Ivtzan (2018) reported significant increases in psychological resilience and reductions in depression, anxiety, and stress among participants in a meditation intervention. Wu et al. (2021) identified a positive relationship between meditation and maintaining attention focus, which enhances cognitive mental toughness in sports performance, while Grush (2004) and Gould et al. (1992) affirmed the significance of meditation and mental training in enhancing control and persistence that is a crucial aspect of mental toughness and cognitive skills for sports performance.

The effect size analysis using Cohen's d revealed a small effect at baseline (d = 0.32) between the control and meditation groups, which increased to a moderate effect at the endpoint (d = 0.67). This growth in effect size further supports the positive impact of the Loving-Kindness Meditation (LKM) intervention on mental toughness over time. It is worth noting that the present study's findings contribute to the growing body of evidence supporting meditation's role in enhancing psychological resources. Parthasarathy & and Zelvakumar. (2019) found that loving-kindness meditation significantly improves self-confidence, while Bulent (2019) reported improved players' confidence, control, and constancy levels after a 12-week meditation training session. Ramesh et al. (2013) observed that meditation significantly increased positive thinking, self-satisfaction, and happiness regardless of age or duration of practice.

In conclusion, the present study's findings, supported by previous research, suggest that Loving-Kindness Meditation (LKM) is a promising intervention for increasing mental toughness among university students. The significant improvements observed in the meditation group, coupled with the absence of change in the control group, provide strong evidence for the effectiveness of this approach. Future research could explore the long-term effects of Loving-Kindness Meditation (LKM) on mental toughness and investigate its impact on specific components of mental toughness to explain further the mechanisms underlying these improvements.

Changes in Psychological Well-being Over the Intervention

The second hypothesis posited that meditation would significantly increase psychological well-being. The analysis revealed a significant main effect of Time, , and a significant main effect of Group, Importantly, a significant Time × Group interaction was also found,

Post-hoc analyses using the Holm-Bonferroni method showed the meditation group at

Baseline to Endpoint. The control group showed no significant differences between time points. These results indicate that the loving-kindness meditation (LKM) intervention had a positive impact on psychological well-being over time. The meditation group demonstrated a significant increase in psychological well-being from baseline to endpoint, while the control group showed no significant changes.

The significant improvement in psychological well-being observed in the meditation group aligns with previous research linking meditation practices to enhanced psychological well-being (Brown & Ryan, 2003). This finding suggests that Loving-Kindness Meditation (LKM) may be a valuable intervention for promoting psychological well-being in university students, potentially by reducing stress, enhancing self-awareness, and fostering greater emotional regulation and self-acceptance (Shapiro et al., 2006). The results are consistent with Hutcherson et al. (2008), who showed that Loving-Kindness Meditation (LKM) improves well-being, positivity toward strangers, and social connection. Similarly, other studies have confirmed that Loving-Kindness Meditation (LKM) enhances prosocial behaviour, daily positive emotional experiences, and reduces self-criticism (Bankard, 2015; Fredrickson et al., 2008b).

The moderate to large effect size ($\eta^2 p = .165$) for the Time × Group interaction suggests that the impact of Loving-Kindness Meditation (LKM) on psychological well-being is statistically significant and meaningful. This is particularly noteworthy given the short duration of the intervention (4 weeks).

While the present study did not directly investigate the mechanisms through which Loving-Kindness Meditation (LKM) enhances psychological well-being, several possibilities can be inferred from existing literature. Brown and Ryan (2003) found that increases in mindfulness over time relate to a decline in mood disturbance and stress. Loving-Kindness Meditation (LKM) may foster mindfulness, leading to improved self-regulation and positive emotional

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states. Even short, focused meditation training has improved psychological variables, including positive and negative affect, state and trait anxiety, and concentrated attention (Menezes & Bizarro, 2015). This aligns with the present findings, suggesting that even a 4-week LKM intervention can yield significant improvements in psychological well-being.

In summary, this study provides strong evidence that a 4-week loving-kindness meditation intervention can significantly enhance psychological well-being among university students. These findings contribute to the growing body of research supporting the use of meditation practices for developing psychological resources. The results suggest that incorporating Loving-Kindness Meditation (LKM) into university support services or student well-being programs is an effective strategy for fostering psychological well-being and improving students' overall mental health and academic experience.

Changes in Positive Emotions Over the Intervention

The second hypothesis stated that "the meditation will significantly increase positive emotions." The analysis revealed no significant main effect of Time, indicating that participants' positive emotions did not significantly increase over the study period. However, there was a significant main effect of Group, and a significant Time × Group interaction.

Post-hoc analyses using the Holm-Bonferroni method revealed that the meditation group has

no significant changes across time points . However, the control group at baseline (M to Midpoint significant decrease. And baseline to Endpoint (significant decrease). These results indicate that while the loving-kindness meditation (LKM) intervention did not significantly increase positive emotions in the meditation group, it appeared to have a protective effect against declining positive affect. The control group experienced a significant decrease in positive emotions over time, which was not observed in the meditation group.

This suggests that while the increase in positive emotions in the meditation group was not statistically significant, there was a meaningful difference between the groups. These findings partially support previous research. For instance, Fredrickson et al. (2008b) found that Loving-Kindness Meditation (LKM) practice increased daily experiences of positive emotions. While our study did not show significant increases, the protective effect observed is still noteworthy and consistent with the idea that meditation can help maintain emotional stability.

The significant decrease in positive emotions observed in the control group may be attributed to various factors, including academic stress or the ongoing pandemic situation. This decline highlights the potential value of Loving-Kindness Meditation (LKM) as a protective intervention against deteriorating emotional states in university students. Another possible explanation may be due to COVID 19-pandemic period. As Mojtahedi et al. (2021) noted, mental toughness, which can be enhanced through meditation, may play a role in maintaining positive emotions during challenging situations such as a pandemic. The results of this study are also consistent with Hutcherson et al. (2008), who demonstrated that Loving-Kindness Meditation (LKM) improves positivity toward strangers and social connection. Similarly, He et al. (2015) concluded that Loving-Kindness Meditation (LKM) could effectively improve college students' positive emotions and interpersonal interactions.

The protective effect of Loving-Kindness Meditation (LKM) on positive emotions has important implications for student well-being. Maintaining stable positive emotions could help students cope with academic stressors and maintain motivation throughout their studies. This aligns with the broaden-and-build theory (Fredrickson, 2001), which suggests that positive emotions play a crucial role in building and buffering psychological resources and resilience. While the protective effect of Loving-Kindness Meditation (LKM) on positive emotions is promising, the lack of significant increases in the meditation group warrants further investigation. Future studies could benefit from longer intervention periods or more frequent practice sessions to potentially elicit more substantial improvements in positive emotions. Additionally, investigating the specific components of Loving-Kindness Meditation (LKM) that contribute to this protective effect could provide valuable insights for developing targeted interventions.

Implications

The significant improvement in psychological well-being observed in the meditation group has important implications for university students' mental health and academic performance. Enhanced psychological well-being could potentially help students better cope with academic stressors, maintain motivation, and improve overall quality of life. The findings from this study suggest several practical applications:

Protective Effect of Loving-Kindness Meditation (LKM): The findings suggest that Loving-Kindness Meditation (LKM) may have a protective effect against declining positive affect in university students, which could be particularly beneficial in maintaining psychological well-being during stressful periods. The protective effect of Loving-Kindness Meditation (LKM) on positive emotions has important implications for student well-being. Maintaining stable levels of positive emotions could potentially help students better cope with academic stressors and maintain motivation throughout their studies. This aligns with the broaden-and-build theory (Fredrickson, 2001), which suggests that positive emotions play a crucial role in building psychological resources and resilience.

Mental Health Interventions: Loving-Kindness Meditation (LKM) could be incorporated into university counselling programs to help students develop resilience and cope with academic stress. In addition, it enhances emotional well-being and reduces burnout. The findings are further supported by research from Arunoda, Gunathunga, and Yobas (2019), who found significant increases in positive factors of mental health among undergraduate students participating in mindfulness meditation programs. Similarly, Vijayaraghavan and Chandran (2019) reported improved psychological well-being in students practising meditation for three months.

Sports Psychology: Athletes could benefit from incorporating Loving-Kindness Meditation (LKM) into their training regimens to improve mental toughness and emotional regulation.

Mental Toughness and Well-being: The study underscores the potential of mental toughness to act as a buffer against stress and promote well-being in academic settings, although this relationship may not be uniform across all aspects of well-being. Furthermore, the study by Mojtahedi et al. (2021) confirms that mental toughness enhances positive emotion, particularly during challenging situations such as the pandemic. This suggests that the relationship between Loving-Kindness Meditation (LKM), mental toughness, and positive emotions may be interconnected and mutually reinforcing. Implications

Emotional Expressivity: The positive relationship between mental toughness and emotional expressivity challenges previous assumptions and highlights the importance of considering contextual factors in understanding these relationships.

Intervention Development: The results support the potential integration of Loving-Kindness Meditation (LKM) into university support services or student well-being programs to foster psychological well-being and resilience. The meditation intervention had a significant positive effect on mental toughness and psychological well-being, demonstrating the potential benefits of meditation for enhancing resilience and well-being. However, its effects on positive emotions were less clear, with no significant improvements observed in the meditation group. The findings suggest that while meditation may help maintain stable emotional experiences, additional strategies may be needed to enhance positive emotions. Future research should continue to explore the mechanisms through which meditation influences mental health and identify ways to optimise its benefit for different aspects of well-being.

Limitations

Despite the promising results, there are some limitations associated with the study and these are acknowledged below.

Sample Size and Duration: The relatively small sample size and short intervention period (4 weeks) may limit the generalisability of the findings and the ability to detect more subtle changes in positive emotions and psychological well-being.

Self-Report Measures: The study relied on self-report measures, which may be subject to social desirability bias and may not fully capture participants' nuanced experiences.

Lack of Active Control Group: The study used a wait-list control group rather than an active control group, which makes it difficult to rule out the possibility that the observed effects were due to non-specific factors such as attention or expectation.

Context-Specific Factors: The study was conducted during a pandemic situation, which may have influenced the results, particularly the decrease in positive emotions observed in the control group.

Limited Exploration of Mechanisms: While the study found significant effects, it did not fully explore the mechanisms through which loving-kindness meditation (LKM) influences mental toughness, positive emotions, and psychological well-being.

Finally, while the Bonferroni correction helped control Type I errors, it may have been overly conservative, potentially masking meaningful changes (Perneger, 1998). Alternative statistical approaches could be explored in future studies to balance the risk of Type I and Type II errors.

 Future Research Directions

Long-term Effects: Future studies should investigate the long-term effects of Loving-Kindness Meditation (LKM) on mental toughness, positive emotions, and psychological well-being, including follow-up assessments beyond the intervention period. Future studies with larger and more diverse samples are needed to validate these results. Additionally, the duration of the intervention may not have been sufficient to observe substantial changes in positive emotions. Future research could explore longer intervention periods or combine meditation with other positive psychology interventions to maximise its effects on psychologicall well-being.

Contextual Factors: Future research should consider how different contexts (academic stress, pandemic situations) may moderate the effects of Loving-Kindness Meditation (LKM) on psychological outcomes.

Specific Emotions: Investigations into whether expressing or cultivating certain emotions (gratitude, compassion) might play a more significant role in promoting well-being than others could provide valuable insights.

Objective Measures: Incorporating objective measures of well-being and performance outcomes alongside self-report data could provide a more comprehensive understanding of the effects of Loving-Kindness Meditation (LKM). Mechanisms of Action: Research is needed to explore the specific mechanisms through which LKM influences these psychological constructs, possibly through mediation analyses or qualitative research.

Dose-Response Relationship: Studies could examine the optimal duration and frequency of Loving-Kindness Meditation (LKM) practice for achieving significant improvements in positive emotions and well-being.

Extending Intervention Duration: Longer interventions may yield more substantial changes in mental toughness and psychological well-being.

Exploring Different Populations: Future research should explore the effects of Loving-Kindness Meditation (LKM) on diverse populations such as older adults or individuals with clinical diagnoses.

Component Analysis: Future studies could examine specific components of mental toughness (e.g., confidence or focus) rather than overall scores.

Active Control Groups: Future studies should consider using active control groups to better isolate the specific effects of Loving-Kindness Meditation (LKM) from non-specific factors.

Individual Differences: Research exploring how individual differences (personality traits, baseline mental toughness) may moderate the effects of Loving-Kindness Meditation (LKM) could help in developing more targeted interventions.

Additionally, investigating the specific components of Loving-Kindness Meditation (LKM) that contribute to this protective effect could provide valuable insights for developing targeted interventions. Future research could also explore the long-term effects of Loving-Kindness Meditation (LKM) on positive emotions and examine whether the protective effect persists beyond the intervention period. Additionally, investigating the specific components of psychological well-being that are most affected by Loving-Kindness Meditation (LKM) could provide valuable insights for developing targeted interventions. Future studies could also explore the potential mediating factors, such as changes in mindfulness or self-compassion, which might explain the relationship between Loving-Kindness Meditation (LKM) and improved psychological well-being. While the protective effect of Loving-Kindness Meditation (LKM) on positive emotions is promising, the lack of significant increases in the meditation group warrants further investigation. Future studies could benefit from longer intervention periods or more frequent practice sessions to potentially elicit more substantial improvements in positive emotions. Further research should specifically target the use of these auditory stimuli in Loving-Kindness Meditation (LKM) to provide more concrete evidence. Meanwhile, the existing studies on meditation and binaural beats/isochronic tones support the rationale for their use in enhancing the meditative and emotional outcomes of Loving-Kindness Meditation (LKM).

In conclusion, this study provides evidence that Loving-Kindness Meditation can significantly improve mental toughness, positive emotions, and psychological well-being over time compared to a control group. These findings contribute to a growing body of literature supporting meditation interventions as effective tools for enhancing emotional and psychological health. While the 4-week Loving-Kindness Meditation (LKM) intervention did not significantly increase positive emotions, it demonstrated a protective effect against declining positive affect among university students. This finding contributes to the growing body of evidence supporting the use of meditation practices for maintaining emotional well-being in academic settings. The results suggest that incorporating Loving-Kindness Meditation (LKM) into university support services or student well-being programs could be an effective strategy for buffering against decreases in positive emotions and potentially enhancing overall emotional resilience.

CHAPTER 5

EXPERIENCE OF MEDITATION TRAINING: A QUALITATIVE ANALYSIS OUTLINING NEEDS MEDITATION EFFECTIVENESS AND EXPERIENCE

5.1 Introduction

This chapter aims to investigate the participants' experiences in the meditation training in Study 2. The previous chapter explored the effectiveness of meditation on mental toughness, positive emotion, and psychological well-being. It provides information on the participant's experience of meditation practice on mental toughness, positive emotion, and psychological well-being.

5.2 Using Qualitative Research

Qualitative research has its goodness (Peshkin, 1993) and strength (Maxwell, 1996). As qualitative research becomes increasingly valued and established, conducting it rigorously and methodically is essential to yield meaningful and useful results (Attride-Stirling, 2001). The frequent use of qualitative research has increased in the last two decades (Attride-Stirling, 2001). The qualitative analysis became more functional when several studies in psychology started using it (Attride-Stirling, 2001; Ryan et al., 2007). This implies that researchers began to realize the usefulness of qualitative research instead of quantitative studies with limited numbers (Côté et al., 2016). Qualitative research is mainly based on words, images, and different descriptions compared to the quantitative method, which is based primarily on statistical analyses. Qualitative research discusses constructs or creates various aspects of analysis for a research question that quantitative research cannot offer (Attride-Stirling, 2001). The qualitative method aims to know the human experience in research (Sandelowski, 2004). Qualitative research provides an opportunity to investigate further and understand quantitative data. It has assisted in gathering participants' opinions, experiences, perceptions, and behaviour. The ability to explain processes and patterns of human behaviour, which can be challenging to quantify, is one of the strengths of qualitative research. It is possible to quantify qualitative data, but qualitative data mainly seeks themes and patterns that can be difficult to

quantify. It is vital to ensure that the context and narrative of qualitative work are not lost by trying to quantify something that is not meant to be quantified.

Another strength of qualitative research is its capacity to communicate the result in a story form, specifically from the viewpoint of those directly involved in the study. The qualitative research reports comprise the descriptions and details of the setting that include quotes from the participants. This part is called 'thick' or 'detailed' description, which is the strength of the qualitative study. Narrative research is familiar with the capacities of 'thick' description. This method links together in categorising reports, basically from just one or two individuals, to create a narrative or consistent story. Although it might seem like a waste of time to focus on such a specific individual level, understanding one- or two people's stories for an event can help to inform researchers about the influences that helped shape that narrative. The tension or conflict of differing narratives can be "opportunities for innovation". More sophisticated tools need to be created for more study to manage reliable qualitative research. The most complex stage of qualitative research is data analysis, which has received less attention in the literature (Thorne, 2000).

Data analysis conducted systematically can be clearly communicated to people (Malterud, 2001; Sandelowski, 2004). However, researchers who specialise in qualitative study sometimes neglect to completely describe how analysis is accompanied within disseminated research reports (Attride-Stirling, 2001). It has been suggested that it is essential for researchers to be aware of what they are doing and why they are doing it and include a clear description of analysis methods (Thorne, 2000; Malterud, 2001). Evaluating the reliability of the research process seems to be difficult; if the scholars are not clear about the data analysis of the researchers or what assumptions informed the analysis. When conducting data analysis, the researcher becomes the instrument for research, making judgments about coding, theming, decontextualizing, and decontextualizing the data (Starks & Trinidad, 2007).

Each qualitative research approach has specific techniques for conducting, documenting, and evaluating data analysis processes, but it is the individual researcher's responsibility to confirm the accuracy and trustworthiness. Qualitative researchers can demonstrate how data analysis has been conducted through recording, systematising, and disclosing the analysis methods with enough detail to enable the reader to determine whether the process is reliable (Attride-Stirling, 2001; Ryan et al., 2007). Thematic analysis is an essential paradigm of inquiry qualitative

analysis, which has been transcribed to guide researchers in conducting a rigorous and methodical method to produce valuable results.

Qualitative methods are based on the personal lived experience of individuals and can contribute to the value that an intervention may have in a context in which it has been recently introduced. They can provide information on how the context of an intervention or its delivery mode needs to be refined to be delivered to a new group of people (Alderfer & Sood, 1996). For instance, in an initiative to minimise harmful alcohol use in young people

Qualitative analysis has unique findings, which can fall within the wide range of four categories of outcomes, including description, interpretation, verification, and evaluation (Strean, 1998). The benefits of the four categories depend on each other; they often overlap to a large extent.

The description is how researchers narrate information to the readers on how people make sense of their world. Researchers can provide information using interviews and observational data. For instance, the way actions and events occur or been described may denote different settings, for example, the historical description of successful individuals, though, this is an undersized area in terms of research, as the views and the experiences of successful coaches and athletes have not been recorded appropriately, although many vital questions have not been effectively addressed. Another form of description is related factors to the success of an elite performer in sport. (Strean, 1998).

Interpretation is a wide range of classifications that have contributed extensively to how researchers understand the sport. The interpretive investigation has helped researchers explore the lives of performers in sports by extending their knowledge of the sport that was acquired by usual understanding of specific sport-related facts (Denzin, 1989). Furthermore, the principal aim of qualitative researchers is to provide an accurate interpretation of participants' lives as accurately, which may invariably lead to a conclusion made by the researcher.

In summary, interpretation allows the researchers to understand the difficulty of a discoursed detail (Peshkin, 1993). The verification process is the third category of the outcomes of the qualitative analysis. This is related to the degree to which the testing of an idea is accurate. The fourth category of outcomes from the qualitative analysis was the evaluation, in which a new intervention was used to enhance the participants.

5.3 Meditation Experience

In recent years, research on meditation has "exploded" (Brown et al., 2007). Meditation training has been used in various professional contexts, including positive psychology, psychotherapy and general well-being, for diverse reasons (Renjen & Chaudhari, 2017). An intervention is designed primarily for a specific cohort. Meditation has been delivered face-to-face and through an online intervention (Champion et al., 2018; Huberty et al., 2019). If the intervention is effective for this group, the impression should not be created that this specific intervention can be equally effective among another group. Interventions based on meditation emphasise the participant's role in the implication and understanding of their experiences (Williams et al., 2011). The term "meditation" has been loosely used to denote various diverse methods. These comprise concentration, use of nature sounds such as the water, rain, ocean, binaural, isochronic, contemplation, guided meditation, breathing exercises, and Mantra. These meditation practices work at different levels, including the mind, intellect, senses, and emotions. Some techniques are straightforward to learn and practice, while others are more difficult, making the participants give up the practice quickly. These meditation exercises broaden attention, improve positive emotions, and lessen negative emotions (Dalai & Cutler, 1998). The primary purpose of meditation is to make oneself connect to one's deep inner Self. This implies connecting spirit, soul and body. A plethora of evidence showed that one of the benefits of meditation is in areas of sleep (Zheng et al., 2020). Meditation practices are subtle and are experienced differently by each individual. However, specific reference points and typical milestones have been identified (Dalai Lama, 2001). This may not be recognised immediately by a relatively new individual to the practice. While meditation was usually described to be beneficial to well-being. (Lustyk et al., 2009) review 17 relevant primary publications of academic literature on mental health problems related to meditation. They examined the downsides of meditation, mainly among those who might be called grey meditators. It was discovered that the majority were case studies of problems that occurred after participation in intensive retreats. Similarly, Tim Lomas et al (2015) investigated the effect of various meditation practices on men's wellbeing. Conducted an in-depth interview with 30 male meditators in London, UK. They recruited by using principles of maximum variation sampling and analysed using a modified constant comparison approach. It was revealed that psychological challenges linked with its practice. They uncover four main problems that is increasingly serious. Meditation was not an easy skill to learn and practise;

meditation aggravated mental health issues, such as anxiety and depression; recipients encountered troubling thoughts and feelings which were hard to manage, and it was also mentioned in a few cases that meditation was linked with psychotic incidents. It is worthwhile to note that these studies are basically on meditators, and the sessions were a long session of two hours. The need to investigate the experience of meditation on loving-kindness and some other positive psychological construct in a meditational form is also important.

An ever-increasing body of research has confirmed several health benefits of meditation, raising interest in psychology, medicine, and other related fields (Sharma & Singh, 2015). Energy increases during the meditation process, accumulated stresses are removed, and it positively affects general health (Munger et al., 1993; Sharma & Singh, 2015). The study has established numerous meditation-related health benefits (Burns et al., 2011; Sharma & Singh, 2015). These include increased efficiency (Horowitz, 2011); stress reduction (Burns et al., 2011; Horowitz, 2011), decreased anxiety (Arias, Steinberg, Banga, Trestman, 2010), reduced depression (Burns et al., 2011; Sharma & Singh, 2015); reduction in pain both physical and psychological (Grant, Courtemanche, J., & Rainville., 2010; Horowitz, 2011) and improved memory, (Sharma & Singh, 2015).

5.4 Methods

5.4.1 Design

The research design was a qualitative study. A two-stage recruitment process was adopted, and semi-structured interviews were conducted with participants in the intervention study. The principal researcher sent an email to help confirm if the participants who took part in the meditation practice were free to interview, and a consent form was sent to them. The researcher generated a list of participants available to participate in the discussion.

The participants' initial list was 25 names, of whom 20 consented to be contacted by the researchers. Of these 25 potential participants, 20 people were interviewed, of which 12 were males, and 8 were females. The ages of the participants were between 20 and 36. The remaining 5 people either could not be contacted in the research time frame or did not wish to be interviewed. Interviews were conducted individually through Skype and lasted between 20 and 30 minutes. Interviews were transcribed, and all participants were offered the opportunity to review their transcripts. The interview questions were used to loosely structure the interviews.

5.4.2 Procedure

Participants were purposively sampled to ensure a broad spectrum of experiences were included. The participants who participated in the meditation practice were recruited.

After completing four weeks of meditation practice, an interview questionnaire was devised to gather information from the participants regarding their experience of the practice. Participants were interviewed by asking in-depth questions in as much detail as possible. The data was analysed using fundamental thematic analysis to recognise key themes.

Therefore, this study adopted a method of using both quantitative and qualitative data, with the data from the questionnaires and interviews through Skype being used mainly to add depth to the quantitative findings and valuable participant insight into the use of meditation practice interventions.

5.4.3 Data collection and analysis

The researcher recruited the participants in study 2 and conducted interviews independently. Based on an interview guide (Table 1), the participants were asked about their experience, meditation, possible effective factors, and the significance of meditation in their lives. The interviews were transcribed pseudonymously based on the audio recordings.

Furthermore, qualitative analysis was conducted, which was study 3. Participants were contacted for an optional interview after the four weeks of meditation practice. Participants who agreed to be interviewed were asked to indicate this through email. The PIS and consent form for the interview were sent to the participants. Before the interview, questionnaires were sent to familiarise them with the questions.

Semi-structured interviews were used to evaluate the effects of the meditation program. The main purpose of the semi-structured interviews was to investigate the efficacy of the meditation practice, examine the participants' need for meditation, and evaluate the usefulness of the skills.

Qualitative analysis was analysed using thematic analysis as proposed by (Braun & Clarke, 2006). The interviews were first transcribed then the codes were developed from the transcripts (Guest et al., 2011). The codes were subsequently linked to the research questions. Analysis of data was done using ATLAS.ti version 9.1

Thematic analysis is a method for identifying, analysing, and interpreting patterns of meaning within qualitative data (Kawulich, 2004). The data gathered during the research activity signifies the participants' experience that the researcher wants to understand (Grbich, 2007). The researcher makes sure that the participant's responses are successfully understood and transcribed for effective dissemination to others. While this supports data analysis, data needs to be analysed and interpreted to make the required meaning out of the data collected. (Kawulich, 2004) posited that data analysis is a process by which the researcher summarises the raw data to a more meaningful interpretation.

The thematic analysis provides efficient and accessible procedures for themes and codes from qualitative studies. Themes are the larger patterns of meaning, which underpin a central organising concept. Themes provide a framework for organising and reporting the analytic observations of the researcher (Clarke et al., 2015). Likewise, codes are the lowest components of analysis, which capture interesting data features relating to the research question; they serve as the building blocks for themes (Guest et al., 2011).

This study utilises thematic analysis for its data analysis. Thematic analysis aims to summarise the content of the data by identifying and interpreting the important features of the data as guided by the research question. Thematic analysis enables the analysis and organisation of emerging concepts from raw data. It also helps develop significant themes by using the extract from raw data to build a thematic structure representing the data.

Table 9 INTERVIEW QUESTIONS ON MEDITATION

The questions marked with numbers are core thematic questions

Overall, what did you think of the meditation training?

Do you find breathing easy during meditation?

Did you find it easy to adhere to the daily pattern of meditation?

What do you like about meditation?

Do you feel you got better at meditation throughout the training programme?

Which part of the meditation was most challenging?

Did you practice meditation on your own during the intervention in addition to the suggested exercises?

Do you feel that the meditation programme had a positive effect on you? (follow up with If yes how, if not why not)

Do you have any suggested modifications for the meditation training?

Are you still going to continue the meditation after the intervention?

Reflexivity and Positionality

Reflecting on my journey as a researcher, I recognise the importance of understanding my positionality and the impact it may have had on the research process. My interest in studying emotions, mental toughness, and psychological well-being originated from a long-standing curiosity about human behaviour, specifically, how people experience and express their emotions. As I embarked on this research, my fascination with positive psychology and resilience might shape my approach to the topic. In this section, I aim to discuss my preconceptions about the research area, the strategies I used to manage these preconceptions during analysis, and how my understanding evolved as the study progressed.

Preconceptions of the Meditation

 Reflecting on the researcher's role and how preconceptions may influence the study is essential in qualitative research. Reflexivity requires acknowledging the personal and professional biases that may shape data collection and analysis (Berger, 2015). In conducting this qualitative study, I approached the topic of meditation with several preconceptions about its impact on mental toughness, positive emotions, and psychological well-being. With a background in psychology, I viewed meditation primarily as a tool for stress reduction and emotional regulation. This perception was informed by personal experience and existing literature emphasising meditation's psychological benefits (Kabat-Zinn, 1990). I anticipated that participants would report overwhelmingly positive effects, which aligned with my belief in meditation's potential for enhancing mental toughness and psychological well-being (Berger, 2015). Recognising these assumptions, I was careful to adopt a reflexive stance throughout the research process, consistently engaging in self-reflection to mitigate potential biases that could influence data collection and analysis.

Managing Preconceptions During Analysis

Recognising the influence of my preconceptions, I adopted several strategies to maintain objectivity and openness during the analytical process. I engaged in regular reflexive journaling, documenting my thoughts, reactions, and insights as they emerged throughout the research, a process that facilitated awareness of biases that might influence interpretation (Ahern, 1999). I remained mindful of allowing participants to express their authentic experiences without steering conversations toward my expectations.

In the qualitative analysis, I adopted a thematic analysis approach to let the themes emerge naturally from participants' narratives, giving precedence to their voices over preconceived ideas. I made a concerted effort to code and categorise data based on emerging themes rather than filter responses through the lens of my assumptions. I ensured that participants' perspectives were accurately captured and not shaped by my biases (Lincoln & Guba, 1985). I employed reflexive journaling to manage these preconceptions and engaged in regular discussions with peers and mentors. This process helped me remain aware of my biases, and I also employed bracketing, consciously setting aside assumptions to allow themes to emerge directly from the data (Tufford & Newman, 2010). Engaging in peer debriefing and member checking (Lincoln & Guba, 1985) further ensured the credibility of my findings, allowing an open-minded approach that prioritised participants' authentic experiences.

This practice helped me remain aware of my own biases, allowing me to set aside preconceived notions while interpreting data consciously. Additionally, I sought feedback from my supervisors and peers, who provided diverse perspectives that challenged and refined my interpretations. This collaborative process encouraged me to question my initial assumptions and approach the data with an open mind, ensuring a more nuanced analysis of participants' experiences.

Evolving Perspectives Throughout the Research Process

As the research progressed, my understanding of the impact of meditation on positive emotion, mental toughness, and psychological well-being became increasingly nuanced. While my initial belief in the power of positive emotions was affirmed, I began to see resilience and mental toughness as multifaceted constructs shaped by various personal and contextual factors. My interactions with participants, specifically during the qualitative phase, highlighted how individuals experience and interpret resilience, challenging my initial notion that it could be cultivated through a universal set of practices. I also gained a deeper appreciation for the role of vulnerability and loving-kindness meditation in building mental toughness, realising that resilience involves strength, adaptability, and emotional awareness.

My understanding of meditation broadened significantly as I engaged with participants' narratives. While many described benefits regarding physiological and emotional outcomes, the data revealed more profound nuanced effects, such as enhanced self-acceptance, appreciation for life, and personal growth. Some participants shared challenges, such as maintaining focus and consistency, underscoring meditation's individualised impact and challenging my original view of it as a primary relaxation tool. This reflexive process highlighted meditation's complexity, reframing it as a practice that fosters mental toughness, emotional development, and well-being in unique, personal ways (Finlay, 2002). It broadened my view of meditation, emphasising its role in supporting emotional and physiological well-being and facilitating personal and spiritual growth. It reshaped my approach to interpreting the data more carefully.

This journey has shown me that my role as a researcher is one of continuous learning and growth. This work has deepened my understanding of positive psychology and reshaped my perspective on the complexities of human behaviour and well-being. Through a commitment to reflexivity and openness to change, I have gained valuable insights that I hope will contribute meaningfully to the field.

5.5 Results And Discussion

The findings of this study are presented under the main structural codes, which correspond to the ten major questions of the semi-structured interview. These are as follows: (a) Overall, what did you think of the meditation training? (b) Do you find breathing easy during meditation? (c) Did you find it easy to adhere to the daily pattern of meditation? (d) What do you like about meditation? (e) Do you feel you got better at meditation throughout the training programme? (f) Which part of the meditation was most challenging? (g) Did you practice meditation on your own during the intervention in addition to the suggested exercises? (h) Do you feel that the meditation programme had a positive effect on you? (i) Do you have any suggested modifications for the meditation training? (j) Are you still going to continue the meditation after the intervention?

The questions above are the main research questions that were asked in the interviews. The meditation experiences were measured within the context of breathing exercises, challenges faced during meditation, the positive effect experience, and body scan loving-kindness meditation and suggestions on how the meditation. This allowed the researcher to consider the participants' experiences within the context of the meditation that they experienced.

Table 10 Themes and sub-themes from the interview

Themes	Sub-themes
Perception of meditation training	Meditation was very helpful
	Meditation was challenging at first
	it was enjoyable
	it was life-changing
Ease of daily meditation	difficult at first
	easier with proper planning
	difficult because of school schedule
	it was easy

	difficult because of personal demands
	not used to meditation
Ease of breathing	difficult at first
	easier over time
	breathing was easy
	breathing was not easy
Benefits/Effects of meditation training	meditation has had positive impact
	improved thinking
	helped ease tension
	helped with self-management
	helped with emotion management
	helped with relaxation
	help with sleep
	helped with self-acceptance
	helped with daily activities
	helped with life appreciation
	helped develop self-independence
Likes about the meditation	opportunity for self-affirmation
	helped with sleep
	helped to achieve personal mastery
	the relieving sounds

	opportunity for self-visualisation
	helped in personal improvement
	feeling of inner peace
Most challenging part of meditation	breathing exercise
	answering questions
	changing from the meditation
	adjusting to personal schedule
	body scan meditation
Adoption of Meditation	meditation is being practiced personally
	meditation will continue personally
Suggestions for improvement	make audios slower
	meditation can go longer
	Improved method of reminders
	audios should not be too long
	use more water sound
	improve the quality of audio files

Twenty in-depth interviews (IDIs) were conducted to assess the participants' experiences in the meditation programme. Eleven themes emerged from the interviews, which are discussed in the following sections.

5.5.1 Perception Of Meditation Training

The participants were asked to express their perception of the meditation training. In their responses, the following sub-themes emerged:

Meditation was very helpful

Practically all the respondents mentioned that the meditation exercises had been beneficial to them, which implies 100% of participants responded very well. In practising the meditation exercises, they were able to identify several benefits, which assisted them in their personal lives. These benefits align with the literature; for example, (Sharma & Singh, 2015) highlight the inner changing faculty to the nonchanging pure consciousness that provides inner peace and bliss. The accumulated stresses would be removed from the accrued stresses of life, energizing the body and improving overall health; the meditation process goes beyond the mind and extends far down to the deepest level of the inner Self. Furthermore, Fredrickson et al (2008b) emphasised that meditation outcomes have been beneficial, involving improved response to stress and immune system functioning, reducing insomnia, and supporting sleep. Health comprises easing anxiety symptoms, dispositional mindfulness, and reduced mind-wandering). And the reduction of major depressive disorder (Geschwind et al., 2020).

"[…] Oh, I still listen to meditation except with my sleep pattern. So overall, has really really been helpful." (P1)

According to the participants, meditation training is beneficial in general well-being. And also aid their sleeping pattern. Meditation is helpful in musculoskeletal, neurological, mental health, cardiorespiratory and endocrine outcomes (Fredrickson & Levenson, 1998; Kraft & Pressman, 2012b; Fredrickson et al., 2000)

Meditation was initially challenging

A third of the participants talked about their experience with the meditation exercises right from the onset. Almost half of them mentioned that they found the meditation exercises challenging at first for a myriad of reasons, including that they were not familiar with the practice of meditation. It is not surprising (Sharma & Singh, 2015) mention that meditation practices work for individuals at different levels, such as the mind, intellect, senses, and emotions. He emphasised that practices are very easy to learn and practice, while others are

more difficult, which can make the participants give up the practice very quickly (Sharma & Singh, 2015)

"Meditation training at first I was reluctant of doing it, because it was something I've never done before[…]" (P3)

However, one-fifth of participants reported that they found the exercises to be easier over time.

"It was very helpful but not at first. But as I got into it is very very helpful[…]" (P15)

The interesting sub-theme formed by the participants' responses refers to how the meditation was not easy at the beginning and how they later found it easy after regular practice. In support of this, Savel and Munro (2017) mentioned that the mind would first wonder at the beginning of the training and have different thoughts. At first, this will be more difficult than it sounds. But with practice, it will become easier to quiet the mind.

It was enjoyable

After periods of participation in the meditation exercises, the respondents stated that they found them enjoyable. By implication, the practices were eventually pleasant to the participants. This was visible in the words of two participants, one of whom stated that: this builds on existing literature Savel & Munro (2017), which states

Another interesting use has emerged from the responses given, which is shown below:

"Okay. Yeah. To be honest, I actually enjoyed it[...]" (P4).

It was life-changing

In a similar vein, one of the participants explained that the meditation exercises were life-changing:

"The meditation to me was a life-transforming one like it added more meaning, as it gives me more reason to feel happier, relieved, and stress-free. Naturally, the real me gets irritated easily. But the meditation calms me down, especially the breathing exercise". (P9)

Again, this is aligned with the concept of alert relaxation discussed by other studies (Jiménez Morgan & Molina Mora, 2017; Lehrer & Gevirtz, 2014)

The participants reported a positive perspective of the meditation training. Although it was meant to be a research exercise, it had immense benefits to them as many reported it to be helpful, enjoyable, and life-changing. The practices meant that they had to make significant changes to their daily routines, which was not convenient for them from the outset but within a short period, they could adjust to it. The statement above implies that one can use meditation training to control emotions, not only enjoyable and life-changing but also in different contexts of everyday daily routines (Jiménez Morgan & Molina Mora, 2017; Lehrer & Gevirtz, 2014).

5.5.2 Ease Of Daily Meditation

Several issues emerged in the discussion about how easy it was for the participants to carry out the daily meditation exercises. Half of the participants initially stated that they found the meditations difficult.

"Initially, I didn't find it easy at first, I didn't find it easy for first two days. Just remember I have some engagement today[...]" (P7).

Several factors were associated with the challenge of adjusting to daily meditations. First of these was due to the challenges of personal demands such as home chores, academic workload. For instance, several interviewees stated it was difficult balancing their academic workload with the meditation exercises. One of them described it thus:

"I did not find easy to adhere due to my timetable at the University." (P6)

Some others stated that the demands of their personal lives, such as taking care of children and work schedule, among others gave them challenges in following up with the meditation exercises, as explained (P15) who mentioned that:

"Oh, at first, I didn't, because I've got kids, and by the time I went to bed. I was too tense to do it. But then when I go to school, I realised that I was a bit more relaxed to do not put myself in a routine" (P5)

Yet another indicated that the source of the challenge was the fact that they were not used to meditation exercises.

"First and foremost, I was not used to meditation. So, the first time the first lesson that I had to listen to the meditation, I had to follow. I was not use to it. So, I completed a couple of lessons and before we moved on the sixth lesson, and I started learning to adapt." (P10)

Another exciting theme formed by the participants' responses refers to inhalation duration versus exhalation of the instructed resonant breathing frequency.

There were some pleasant experiences with the meditation practices. Some participants relayed that they found the exercises to be relatively easy. One of them mentioned that the meditations were easy when they planned their schedules appropriately.

"And I'm relaxed. Yeah, so it was very it was good, the fact that I normally get in the morning rather than night time. Because, you know, it was very good for me to do [...] maybe to feel love to, you know, at the end of the day and its really good, I enjoyed it." (P4)

Similar to the assertion raised in the previous theme, participants indicated that they found the meditation exercises challenging when they had to adjust their schedules to them. The key sources of concern had to do with the demands of everyday life, school, work and family roles. However, with proper scheduling, they could settle into the exercises. This is confirmed by the meditation programs for psychological stress and well-being in a systematic review and meta-analysis research (Goyal et al., 2014).

5.5.3 Ease Of Breathing

The respondents were further asked to rate the ease of their breathing exercises. In their responses, several issues came up. Similar to the responses on their experiences with the meditation exercises, several respondents mentioned that they found the meditation practices to be difficult at first.

"At first, I will say no because it was something I've never done before. I'm not a smoker, but to have my breathing be controlled like that it was really difficult." (P4)

However, half of the participants stated that they found the breathing exercises easier over time, about the second or third week of the meditation exercises.

"No, at first I did not find it easy because it was my first time. But as I got into weeks two and three, I started to relax a bit more with my breathing. And by three and four, I got the hang of it. I was able to control my breathing." (P5)

Again, this is aligned with the concept that meditation practices are easy to learn and easy to support online (Chadi et al., 2018; Champion et al., 2018). It can be done individually, and group practice has its benefits.

About a third of the respondents stated that they considered the breathing exercises easy.

"Yes, I found it easy. Although initially when I started it was something new to me, that was the first time I was doing it. It was not that easy, but it was not difficult either." (P9)

Breathing exercises, another crucial part of the study, were not immediately easy for the participants to adopt, just as it was challenging to adopt the daily meditation exercises. However, practising breathing became easier over time. Unlike the difficulties with daily meditation, there were fewer reports of challenges with breathing.

5.5.4 Effect/Benefits Of Meditation Exercise

The participants were asked about the perceived effect of the meditation on them. Several issues were mentioned in their responses. These are presented in the following themes and sub-themes.

Effect of Meditation Exercise

Almost all the respondents mentioned that meditation had had a positive impact on them. In the words of one of the respondents, they said:

"Yes the meditation exercise has a very big positive effect on me. Normally, like I said I usually feel tensed, discomfort, but the meditation exercise was like a therapy, a remedy to all those feelings that usually have. When I am done wow/wow/ all those negative energy is gone." (P9)

Similarly, other studies have shown that meditation training not only broadens attention but also enhances positive emotions and reduces negative emotional states (Dalai & Cutler, 1998).

Helped with relaxation

Many of the respondents stated that meditation helped them with relaxation. The training made it easy for them to handle the stress of their daily lives. One of the participants said that:

"The meditation training was really calming. Like it was very relaxing. Because normally I feel tensed, nervous and edgy but anytime that I go through the meditation; I feel very calm relaxed, and very, very happy."

Another response from the participants was that the meditation exercises helped ease their tension. The exercises helped ease pent up emotions in them. This could be seen in the response of another respondent who said:

"[…] Normally, like I said I usually feel tensed, discomfort, but the meditation exercise was like a therapy, a remedy to all those feelings that usually have. When I am done whao /wow/all those negative energy is gone." (P8). This is in line with the study by (Bamber & Kraenzle., 2016; Prinsloo et al., 2013) who confirmed that meditation help in relaxation.

Helped with self-management

Another benefit of the meditation highlighted by one of the respondents was that it helped them with self-management. The participant was able to achieve mastery of their activities. This was captured in the respondent's words below:

"[…]it even helped me examined anxiety; usually I worried about and help me to look at things differently. Especially during my math exam at the University. In as much as I breath-in and breath-out I did not worry about what to read, but as I do meditation. It calmed me down, try my best and be positive.[…]" (P6)

One participant stated that participating in the meditation exercises helped them manage themselves better.

"[…]And I learned breathing exercise, I still use the breathing exercise I think like last week. I was supposed to mount a stage and perform. You know, you have the stage fright and this anxiety. I just remembered something like this, breathing exercise, I did it like five minutes or so, and I just feel like I drank tea or something like this kind of inward like you can't really explain it." (P7)

Another indicated that the meditation helped manage their emotions, and yet another suggested that the meditation gave her good feelings. This is in line with the literature review, which showed the positive psychological effects of meditation for adults (Baer, 2003a; Keng et al., 2011; Greeson, 2009). These effects include improving chronic pain (Bamber & Kraenzle., 2016; Kabat-Zinn et al., 1985; Morone et al., 2008; Pradhan et al., 2007) and overall immune function (Bartsch et al., 1992; Massion et al., 1995).

"Yes, I was able to control my temper and anger management. I was able to like control my temper.[…]" (P7)

"[…] It makes me feel good as time goes on." (P2)

Help with sleep

Like the previously mentioned benefit of the meditation practice, three of the participants indicated that the meditation practice helped them with sleep. Those who have had trouble with sleep due to the challenge with relaxation could sleep by practising meditation activities. In the words of one of the participants, they said:

"Oh yes. A very big one as well, because I am able to sleep, like I said like I mentioned previously, I'm able to accept myself love myself […]" (P5)

Helped with self-acceptance

One of them stated that the meditation training helped them with self-acceptance. They were able to overcome challenges with self-appreciation. In their words, the participants indicated that:

"[…]And now I know who I am part of the questions that were in the meditation survey was to kind of think about my friends, my family and I do appreciate life even more, the more because we don't really appreciate life because we think we want to work, we go shopping[…]meditation to enable you to scan through your body,[…] to know that you are complete, you know, and to feel completed, is, is a very very happy thing." (P5)

Helped with daily activities

One participant further mentioned that the meditation helped in managing their daily activities.

"[…]and it's helped me with my day-to-day activities […]" (P4)

Helped with life appreciation

Another participant stated that the meditation training helped them appreciate life better because it gave them the opportunity to reflect.

"[…]and enable me to appreciate myself and other people around me." (P5)

Helped develop self-independence

As a result of the personal improvement garnered by participating in the meditation training, one of the participants indicated that they could attain self-independence, which had been a challenge before that time. The participant spoke thus:

"[…] It actually taught me about motivation and how I can stay on my own and be independent and not over stress on something that is too difficult […]" (P2)

Another participant mentioned the benefit of the meditation exercises because it makes them think clearly. Two respondents stated that carrying out the meditation exercises helped them feel better. This could be seen in the response below:

"It has a positive effect on me. That part that says 'even when things aren't going my way, I've learned to notice things because I come to believe that I learn that even when I'm still alive. For the fact that I do things I can always get another chance to make things go my way and then the positive thinking part too. So, this make me to be optimistic if I face any challenge." (P10)

Another exciting theme formed by the participants' responses refers to the positive experience, which led the participants to maintain the meditation practice.

The positive experience led to a sustained meditation habit

In general, the meditation exercises helped the participants manage themselves, improve their thinking, and manage their emotions. In reaction to their positive experience with the breathing exercise, one of the participants stated that they have kept up the daily practice of meditation. In contrast, another said that they shared the exercise with others to also benefit from the experience.

"[…] I'm still doing it. Oh, I still listen to meditation except with my sleep pattern. So overall, is really really been helpful." (P1)

"[…]I've got other people doing it as well you know just to say the breathing exercise when they say oh I'm really angry the lockdown. I said I'm going to say something to you just use it and get back to me. Is it oh my god I fell asleep, I said that's what I want you to sleep then." (P20)

An overview of the respondents' reports on the impacts of the meditation exercises showed that they found the programme to have had a significant positive impact on them. The participants pointed out that they felt better, could think better, and were more relaxed, which led to better performance of their daily roles.

5.5.5 Likes About The Meditation

There were several things that the participants considered that they loved about the meditation exercises. These were captured in the following sub-themes

Opportunity for self-affirmation

A common response among the participants was that the meditation exercises allowed self-affirmation. Half of the participants mentioned that they could speak positive words to themselves, which boosted their self-image. One of the participants' words stated thus:

"[…] There's another one, which is about positive talk. Where you do positive affirmation, I am confidence. I am beautiful." (P6)

Helped with sleep

Another thing that the participants liked was that the meditation training helped them with sleep. Challenges that were related to getting to sleep were addressed by listening to the audio meditations. This could be seen in the words of one of the participants who explained that:

"[…] And lastly, like I said, it helps with my sleeping pattern. And that will help me with my overall wellbeing, you know. If you had a good sleep. The next day is likely to be better production, which is another benefit from my experience." (P1)

Helped to achieve personal mastery

Two of the participants explained that the meditation practices helped them achieve personal mastery. They were able to be in charge of issues related to them. One of them stated thus:

"[…] And again, like I said, it kind of helped me to be able to organise myself because it became part of my routine. Like I said when I first started, I was just doing it during the day, but towards the end. I was doing it like an hour before my bedtime so I had something to focus on, you know, before going to bed I know I have to do my meditation. And then so that's another benefit that I can see. I got from meditation […]" (P1)

The relieving sounds

Another issue some of the participants mentioned was that they liked the sounds played in the background of the audio. Two of them considered the sounds to be relieving and soothing. One of them mentioned thus:

"I like most of it but what caught my attention was the sounds. I love the sounds. Its really cool, gives me energy and vibes. I just feel relieved and at ease." (P9)

Opportunity for self-visualisation

Similar to the statement that the meditation exercises helped them with self-affirmation, one of the participants mentioned that the audio files enabled them to gain personal visualisation. This was found to be pleasant to them. The participant described it thus:

"What I like about the meditation is the loving-kindness meditation and is one of visualisation where you visualise yourself where you want to be in the next five years[…]" (P6)

Helped in personal improvement

Furthermore, one of the participants indicated that the meditation training helped in their improvement. The participant stated thus:

"It taught me about how I can think fast and how I can get settled whenever I see some challenges and how I can be independent on my own because some of the questions were special." (P2)

Feeling of inner peace

Another participant indicated that the meditation exercises helped them achieve feelings of inner peace. The participant's words stated thus:

"What I like is the serenity and the inner peace" (P8)

An overview of what the participants liked about the meditation exercises included the fact that the training helped them improve their mental perception of themselves, achieve personal mastery and improvement, relax, and sleep. As they reported, participation in the activities boosted the participants' psychological and physical experiences. These benefits have been confirmed by Behan (2020).

5.5.6 Most Challenging Part Of Meditation

The participants indicated that they found certain aspects of the meditation exercises challenging. These were captured in the following sub-themes:

Breathing exercise

The most cited aspect that was found challenging was the breathing exercises. Half of the participants indicated that they initially could not regulate their breathing as was required in the meditations, although they could master it afterwards. This was explained as follows by one of them:

"The most challenging through the course of the meditation would be my, my breathing. First, you know thoughts would I be able to do it and I have to challenge myself and say I need to do it. In fact, knowing that it was during the pandemic that you brought it up. […]" (P5)

Answering questions

Two participants stated that they found it challenging to keep up with answering questions associated with the meditation training. One of them said:

"The most challenging aspect is the questioning part; especially the one that asks where I want to be in the next five years." (P6)

Adjusting to personal schedule

One participant identified the challenge of adjusting their schedule to accommodate the meditation exercises. The participants stated as follows:

"The meditation is not really challenging. Although managing my time is difficult at first because I have a very busy schedule. But I was able to slot the meditation into my busy schedule." (P9)

Responding to changes from the meditations

Two participants stated that they had difficulty adapting to the part of the meditation that required them to accept their bodies. They had not given themselves to such practices before, but they could do that eventually. The words of one of them were as follows:

"Challenging one. I would say it was the loved one. The lady was, she said, to feel love from head to toe […]I used to think I needed to do some plastic surgery[…] until you gave me this, you know, meditation to do[…]Now, I don't want to go under the knife, I don't think you like that anymore." (P4)

This is in line with the literature (Bankard, 2015; Fredrickson et al., 2008b; Shahar et al., 2014). The researchers confirmed that LKM enhances prosocial behaviour in individuals' daily positive emotional experiences and reduces self-criticism.

In summary, the participants indicated that they had challenges with some aspects of the meditation exercises. Most of them involved adjusting their routines to the meditation exercises and practising the exercises, which seemed new to them. However, it is relieving to see that they eventually overcame the hurdles.

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5.5.7 Adoption Of Meditation

The study assessed how the participants have adopted the meditation practices for personal use. Two key sub-themes emerged from the discussion. First, the participants indicated that they maintain the personal practice of daily meditation and plan to continue with the meditation practices.

More specifically, all the participants sampled indicated that they had been practising the meditation exercises independently even after the study period.

"Yes, I did, like I told you before, I still found it very useful most days when I know I'm kind of stressed or maybe I've done a lot. When I'm in bed you know I just try to meditate and. Yeah. Okay, so I'm on my own." (P1)

Related to the identified personal meditation practice, all the participants stated that they plan to continue with the personal meditation exercises after the programme has ended.

"I still do meditation now on my own terms and I am still going to continue the meditation, after the intervention." (P1)

The meditation practices were so beneficial to the participants that they decided to continue with them even after the exercises were over. Although they were challenging at first, they turned out to be of great value in the end.

5.5.8 Suggestions For Improvement

The participants made suggestions for improving the meditation exercises based on their experiences. The following sub-themes emerged from their responses:

Meditation can go longer

One of the most common responses from the participants was that the meditation audios should be longer. Three participants opined that the audios needed to be longer to help them with relaxation for long periods of time. This could be seen in the response of one of them:

"[…] I would only say that it will be the gentleman one. I know his own was about just the breathing. But if you could go a little slower than what he did, it would be nice. And, yeah, for

it to be a little bit longer because [...] I realised that it was actually making me sleep so I'm thinking that, is that a good thing to sleep during meditation [...]" (P5)

Make audios slower

Like the request for the audio to be longer, one of the participants asked that the audio run more slowly. This was especially related to the breathing exercises. This would help them follow the lessons better. One of them explained it thus:

"[...] So I would not say there's anything to change but the only thing maybe to maybe talk a bit slowly with, you know the numbers that breed 123. The first second time, I could not control my breathing I just couldn't do it. Because I felt like it was too fast for me. Apart from that, it was perfect." (P1)

The improved method of reminders

A participant mentioned that it would be good to improve the system of reminders for carrying out exercises in the meditation training. The participant's words can be seen below:

"Oh, yes, I think I've mentioned it, or I don't. I'm not sure what I, I think the only suggestion I will have is the way clients were reminded of their meditation because at times would have done an exercise say exercise six, you've done exercises, you find out that maybe after doing it to a better name a nasty disease, so I think it has to do with the computer setting. That is the only thing I think I have, but overall, it's been good [...]" (P1)

Audios should not be too long

Contrary to the common request for audio to be extended, one of the participants asked that the audio files be too long. So that they would be able to follow it better. The participant explained as follows:

"[...] And then probably I would just say this towards the end, the further you go with the meditation, based on my experience, the longer it takes. I think exercise, was like one hour 30 minutes. Yeah. Well, I guess why you did that was you assumed that people would have gotten used to the meditation. So, I found myself sleeping off like I said, 12 midnight I see my earphones pinned to my ear that means deny yeah no wasn't it so I don't know that I don't think I have any other suggestion" (P1)

Improve the quality of audio files

Another participant requested the audio files that the sound quality needed to be improved so that the participant's experiences could increase. The participant expressed that:

"Concerning the audio part, it needs to be louder so that some people can hear it louder." (P2)

Use more of water sound

Further related to the request for improvement in audio files, a participant asked that there should be the use of more water sound in the background as they were found to have soothing effects. The respondent stated thus:

"I think they can add the background sound of the flowing water more. The water sound makes you calm." (P10)

Despite the immense value that the meditation practices have had on the participants, they identified several areas that they considered necessary for improving the meditation practices. These bordered primarily on improving the audio files used for meditation. In support of this view, Sharma (2015) also suggested different ways of enhancing the meditation process and its effect.

Concluding Remarks

This qualitative study explored participants' experiences with a four-week loving-kindness meditation (LKM) intervention, providing valuable insights into the process and outcomes of meditation practice among university students. A range of themes emerged through thematic analysis, reflecting meditation's challenges and transformative impacts on participants' mental toughness positive emotions, and psychological well-being. The results comprehensively understand how meditation fosters emotional resilience, self-acceptance, relaxation, and personal growth.

Key Findings and Interpretations

1. Initial Challenges and Adaptation

Participants reported initially struggling with various aspects of meditation, including maintaining a daily routine, managing breathing exercises, and adapting to personal schedules. These difficulties align with literature suggesting that meditation, though highly beneficial, requires effort and commitment to integrate into daily life (Sharma & Singh, 2015). Despite these initial challenges, participants reported significant improvements in their ability to practice meditation effectively, reflecting the importance of perseverance and gradual adaptation in skill acquisition. However, most participants adapted over time, suggesting that persistence and support during the early stages of meditation practice are crucial for successful implementation.

2. Positive Psychological Outcomes

The study highlighted several positive outcomes of meditation, including the emergence of themes related to increased relaxation, emotional regulation, and self-management. Participants also reported improvements in sleep quality, self-acceptance, and life appreciation. These findings support existing research on meditation's ability to enhance emotional and psychological well-being by promoting mindfulness and reducing stress (Fredrickson et al., 2008). Participants' descriptions of meditation as "life-changing" and "transformative" illustrate the profound personal impact of sustained practice.

3. Sustained Practices and Future Intentions

A notable outcome was the participants' intention to continue meditation practices beyond the intervention period. This suggests that the benefits of LKM were not only immediate but also instilled long-term habits, a critical factor for the sustainability of any intervention. The findings reinforce the potential of meditation as a self-care tool for enhancing mental toughness and overall well-being.

4. Variations in Experience

While most participants found meditation beneficial, their experiences varied depending on individual factors such as familiarity with meditation, personal schedules, and responsiveness to specific techniques. This variability highlights the need for tailored approaches to meditation training to accommodate diverse participant needs.

5. Personal Growth and Transformative Effects

The reported experiences of personal growth and transformative effects suggest that LKM may have broader impacts on students' lives beyond the immediate psychological outcomes measured in the quantitative studies. This highlights the potential long-term benefits of meditation practice.

6. Relaxation and Stress Reduction

Participants consistently reported experiencing relaxation and stress reduction, supporting the potential of LKM as a stress management tool for university students. This finding is particularly relevant given the high-stress levels often experienced by this population.

Theoretical Implications

The findings support and extend the broaden-and-build theory of positive emotions (Fredrickson, 2001). Participants' reports of enhanced emotional resilience and personal growth align with the theory's proposition that positive emotions broaden cognitive and behavioural repertoires, building personal resources. The qualitative data provide rich examples of how this process unfolds in the context of LKM practice.

Practical Implications

Implementation in University Settings:

The findings suggest that LKM could be a valuable addition to student support services. However, the initial challenges reported by participants indicate the need for structured support and guidance, especially in the early stages of practice.

Tailoring Interventions:

The diverse experiences reported by participants highlight the importance of flexibility in meditation programs. Future interventions should consider offering various techniques or customisable approaches to accommodate individual preferences and needs.

Long-term Support:

Given the expressed intentions to continue practice, universities could consider offering ongoing meditation resources or follow-up sessions to support sustained engagement with LKM.

Limitations of the Study

Sample Size and Representativeness: The study involved a small sample (20 participants), limiting the generalisability of findings to a broader population.

Self-Report Bias: Data relied on self-reported experiences, which might be influenced by participants' tendency to overestimate positive effects or underreport challenges. Participants who volunteered for interviews may have had more positive experiences, potentially skewing the findings towards favourable outcomes

Short Duration: The four-week intervention period may not fully capture the long-term effects of meditation practice. The study captured experiences immediately following the intervention without exploring the long-term effects or sustainability of the practice

Limited Diversity: The sample's demographic characteristics may not represent the wider population, affecting the external validity of the findings. The sample may not fully represent the student population's diversity, limiting the findings' generalisability.

Limited Triangulation: While this study complements the quantitative findings, additional data sources (observation and diary entries) could have provided further validation.

Strengths of the Study

Depth of Insight: The qualitative approach allowed for an in-depth exploration of participants' lived experiences, providing a richer understanding of the mechanisms through which meditation influences well-being.

Integration with Quantitative Findings: Study 3 complements the quantitative results from Studies 1 and 2, offering a holistic view of the impact of LKM.

Practical Implications: The study identified actionable insights, such as the importance of routine and the value of specific meditation techniques, which can inform future interventions.

Recommendations for Future Research

Extended Duration Studies: Future research should explore the long-term effects of meditation to determine the sustainability of observed benefits.

Larger and Diverse Samples: Studies should include more extensive and more diverse populations to enhance generalisability.

Refinement of Meditation Practices: Future interventions should consider participant feedback to refine practices, such as incorporating personalised schedules, longer or slower audio guides, and varied background sounds.

Mechanisms of Change: Further research should investigate how meditation influences emotional expressivity and psychological well-being.

Cultural Considerations: Future studies should explore how cultural background influences the experience and outcomes of LKM practice among diverse student populations. Mechanism Exploration: In-depth qualitative studies focusing on how LKM enhances mental toughness, and well-being could inform more targeted interventions.

Technology Integration: Given the increasing use of digital platforms, future research could explore students' experiences using app-based or online LKM interventions. This qualitative study provides valuable insights into the lived experiences of university students practising LKM, complementing and extending the quantitative findings from earlier studies. The rich, contextual data offer a nuanced understanding of how LKM influences mental toughness, positive emotions, and psychological well-being while highlighting areas for future research and practical implementation in university settings.

Conclusion

Study 3 underscores the transformative potential of meditation for enhancing mental toughness and psychological well-being. The findings provide compelling evidence for the inclusion of LKM in mental health interventions, particularly for populations facing stress and emotional challenges, such as university students. By addressing the identified limitations and building on participants' feedback, future research can further refine meditation practices and broaden their applicability, contributing to a more comprehensive understanding of their role in promoting mental health.

CHAPTER 6

6.1 General Discussion

Introduction

This research program aimed to investigate the relationships between mental toughness, emotional expressivity, and psychological well-being among university students and to evaluate the effectiveness of loving-kindness meditation (LKM) in enhancing these factors. The three interconnected studies provide a comprehensive understanding of these relationships and the potential of LKM to improve mental health in the student population. This thesis has made several original and significant contributions to the field through three interconnected mixed-methods studies.

Synthesis of Key Findings

Study 1 established a foundational understanding of the relationships between mental toughness, emotional expressivity, and psychological well-being. The significant positive correlation between mental toughness and psychological well-being, partially mediated by emotional expressivity, suggests that these constructs are intricately linked. This finding aligns with previous research indicating that mental toughness is associated with better psychological outcomes (Stamp et al., 2015) and that emotional expressivity plays a crucial role in psychological well-being (Gross & John, 2003). Building on these correlational findings, Study 2 demonstrated the causal effects of LKM on mental toughness and psychological well-being. The significant improvements observed in the LKM group compared to the control group provide empirical support for the effectiveness of this intervention. Interestingly, while positive emotions remained stable in the LKM group, they decreased in the control group, suggesting that LKM may have a protective effect against declining emotional states often experienced by students during stressful periods. Study 3 complemented the quantitative findings by providing rich, qualitative insights into participants' experiences with LKM. The themes of increased emotional resilience, self-acceptance, relaxation, and personal growth that emerged from the interviews align well with the quantitative improvements observed in Study 2. These qualitative findings help explain the mechanisms through which LKM may enhance mental

toughness and psychological well-being, such as by fostering self-compassion and mindfulness.

Original Contributions

Integrative Model of Mental Toughness, Emotional Expressivity, and Well-being

This thesis proposes that mental toughness links to psychological well-being through the mediating role of emotional expressivity. This novel approach to understanding how these constructs interact emphasises the importance of emotional processes in the relationship between mental toughness and psychological well-being.

While LKM has been studied in various contexts, this research program is among the first to systematically investigate its effects on mental toughness, positive emotions, and psychological well-being, specifically in university students. The findings provide strong evidence for the potential of LKM as a cost-effective and accessible intervention in higher education settings.

The combination of quantitative and qualitative methods used in this thesis offers a more comprehensive understanding of the effects of LKM than either approach alone could provide. This mixed-methods design allows for both statistical validation of the intervention's effects and in-depth exploration of participants' lived experiences, providing a holistic view of the impact of meditation practice.

6.1.1 Bridging the Qualitative and Quantitative Studies

Integrating Studies 1, 2, and 3 in this research creates a comprehensive, mixed-methods approach to understanding how meditation impacts mental toughness, positive emotions, and psychological well-being among university students. The first two studies employed quantitative methods to explore the relationships between these variables and assess the effects of a four-week loving-kindness meditation (LKM) intervention. Study 1 established foundational correlations, identifying a significant positive relationship between mental toughness and psychological well-being, with emotional expressivity as a partial mediator. Building on these findings, Study 2, a quasi-experimental design—demonstrated the positive impact of LKM on enhancing mental toughness and psychological well-being. However, changes in positive emotions were more subtle.

In contrast, Study 3 provided a qualitative exploration of participants' experiences with meditation, offering rich insights that explain and contextualise the quantitative patterns observed in Studies 1 and 2. By capturing participants' subjective experiences, Study 3 revealed how individuals engaged with meditation, which helped account for variations in quantitative outcomes. Themes such as self-acceptance, life appreciation, and personal growth emerged, illuminating how meditation facilitated emotional regulation, resilience, and introspection, which are difficult to capture through quantitative measures alone.

This mixed methods approach thus bridges empirical data with the complexity of individual experiences. The quantitative studies offered valuable insights into the general effects of meditation, identifying correlations between meditation practice and improvements in psychological outcomes. Meanwhile, the qualitative study added depth by capturing participants' reflections, such as the challenges of maintaining focus during meditation, which may explain why some individuals experienced more pronounced benefits than others. This sheds light on individual differences that may account for variations in the quantitative data, capturing the richness and diversity of experiences that numbers alone cannot convey.

This thesis provides a more holistic understanding of meditation's impact by integrating qualitative insights with quantitative findings. The qualitative narratives contextualise the statistical outcomes and reveal individual differences that quantitative measures might overlook. This approach enhances the validity and applicability of the research and offers a more nuanced account of how meditation influences mental toughness, positive emotions, and psychological well-being.

Ultimately, this mixed-methods approach underscores the importance of combining quantitative and qualitative methods to fully understand the impact of meditation, capturing both measurable outcomes and the lived experiences that underscore its transformative potential. Together, these studies contribute to a stronger empirical foundation for meditation as a tool for psychological resilience and well-being, providing insights that extend beyond statistics to reveal the rich, personal dimensions of meditative practice.

6.2 Theoretical Implications

The findings from this research program have several important theoretical implications. First, they support the broaden-and-build theory of positive emotions (Fredrickson, 2001), suggesting that LKM may help broaden cognitive and emotional repertoires, building personal resources such as mental toughness. The stability of positive emotions in the LKM group, contrasted with the decline in the control group, aligns with this theory's proposition that positive emotions can buffer against stress. The research extends the understanding of mental toughness by demonstrating that it can be enhanced through meditation practices. This challenges traditional views of mental toughness as a fixed trait and suggests that it can be developed through targeted interventions. Second, the partial mediation of emotional expressivity in the relationship between mental toughness and psychological well-being extends the understanding of how these constructs interact. This finding suggests that the ability to express emotions effectively may be a key mechanism through which mental toughness contributes to psychological well-being, highlighting the importance of emotional processes in general mental health. This finding contributes to the growing body of literature emphasising the role of emotional skills in psychological resilience. Third, the qualitative findings from Study 3 contribute to the growing body of literature on the experiential aspects of meditation practices. The reported challenges in daily adherence, followed by enhanced engagement and transformative effects over time, provide insights into developing a meditation practice and its potential long-term benefits.

6.3 Practical Implications

The results of this research program have significant practical implications for supporting student mental health. The effectiveness of the four-week LKM intervention suggests that relatively short-term meditation programs can yield meaningful improvements in mental toughness and psychological well-being. Universities and other educational institutions could consider incorporating similar programs into their student support services. The qualitative findings from Study 3 provide valuable insights for designing and implementing meditation interventions. The reported initial challenges in daily adherence suggest that additional support or strategies may be needed to help participants establish a consistent practice. The expressed intentions to continue meditation independently are encouraging and suggest that such

interventions could have lasting effects beyond the formal program. The role of emotional expressivity in mediating the relationship between mental toughness and psychological well-being suggests that interventions targeting emotional skills could be particularly beneficial. Combining LKM with explicit training in emotional expression and regulation might enhance the effectiveness of such interventions. This suggests that a holistic approach to student support services may be most effective.

6.4 Significance Of the Study

Formal courses like meditation are recommended to develop positive emotions, mental toughness, and psychological well-being. The study also suggests that interventions that target well-being and specific psychological skills are most relevant. Because mental toughness is part of young people's daily speech, it may serve as a less academic resource than other health psychology concepts, and this can be applied as a personal developmental skill.

MTQ48 might be a helpful screening device to identify students at risk of underperforming in education. Identifying those individuals at risk of underperformance through the MTQ48 questionnaire is possible. After identifying the concept they lack, each skill can be developed through positive psychological skills and meditation. For example, (Ekmekçi & Miçooğullari, 2019) confirmed that mental training and meditation promote swimmers' mental toughness scores, making them perform better at competitions and training. Mental toughness developed over time through training has practical implications for developing training programmes to increase mental toughness to improve performance and general well-being. For example, training on aspects of mental toughness, such as self-reflection and goal setting (Crust & Clough, 2011), may substantially encourage attendance and enhance academic performance (St Clair-Thompson et al., 2015). MTQ 48 is suitable for assessing students at risk of dropping out of the university. Participants in the current study attest to questions that it is suitable for reflection.

6.5 Limitations and Future Directions

The mixed-methods approach in this research enabled a comprehensive exploration of meditation's impact, leveraging quantitative data to identify trends and qualitative data to capture personal experiences. Despite this research program's strengths, limitations should be acknowledged. The quasi-experimental design of Study 2, while necessary due to practical constraints during the COVID-19 pandemic, limits the causal inferences that can be drawn. Future research should aim to replicate these findings using randomised controlled trials when possible. The relatively short duration of the LKM intervention (four weeks) raises questions about the long-term sustainability of the observed effects. Longitudinal studies are needed to assess whether the improvements in mental toughness and psychological well-being are maintained over time and to identify factors contributing to sustained practice. The sample size in Study 2 was relatively small, which may have limited statistical power. Study 2's modest sample size limited the generalisability of the findings. Future studies with larger samples could strengthen the statistical validity of LKM's effects. The four-week intervention period in Study 2 may not fully capture the long-term benefits of meditation. Future research should explore the effects of extended meditation practices and assess their sustainability. The qualitative insights were based on self-reported experiences, which may be influenced by social desirability or recall bias. While these narratives offer valuable depth, future studies might consider observational data to validate self-reported benefits. Additionally, future research should explore the generalisability of the results to non-student populations or students in different cultural contexts. Future studies could also investigate the potential moderating factors that influence the effectiveness of LKM interventions, explore the neurobiological mechanisms underlying the observed effects, and examine how LKM might be combined with other interventions to maximise its impact on student well-being. For example, individual differences in personality traits, baseline levels of mental toughness, or previous meditation experience might affect how individuals respond to such interventions. Furthermore, Longitudinal Studies are needed to determine the sustained effects of LKM on resilience and well-being, specifically as students transition through different stages of university life. Comparing LKM with other forms of meditation (mindfulness, transcendental meditation) could reveal which practices are most effective for specific well-being outcomes, providing universities with tailored options for student programs. The role of emotional regulation mechanisms, given the importance of emotional expressivity, is important; future studies

should investigate the role of emotional regulation strategies as mediators in meditation's effects, helping to clarify further the pathways through which meditation promotes mental toughness and psychological well-being.

Conclusion

This research programme provides preliminary evidence for the interconnected nature of mental toughness, emotional expressivity, and psychological well-being among university students. It demonstrates the potential of loving-kindness meditation as an effective intervention for enhancing these crucial aspects of mental health. The mixed-methods approach employed across the three studies offers a comprehensive understanding of the quantitative effects and the lived experiences of participants engaging in LKM. These findings contribute to the growing body of literature on positive psychology interventions and mindfulness-based approaches to mental health. They highlight the importance of cultivating cognitive resilience (mental toughness) and emotional skills (expressivity) in promoting psychological well-being. As mental health challenges continue to be a significant concern in student populations, interventions like LKM offer promising avenues for supporting students' psychological health and academic success. Future research should build on these findings to refine and optimise meditation-based interventions, explore their long-term effects, and investigate how they can be most effectively implemented in diverse educational settings. Continuing to advance the understanding of these relationships and interventions, this thesis lays the groundwork for developing more effective strategies to promote mental health and well-being among university students and potentially broader populations.

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Questionnaire for Study One

Mental Toughness Questionnaire 48

	Strongly Agree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
1) I usually find something to motivate me.					
2) I generally feel in control.					
3) I generally feel that I am a worthwhile person.					
4) Challenges usually bring out the best in me.					
5) When working with other people I am usually quite influential.					
6) Unexpected changes to my schedule generally throw me.					
7) I dont usually give up under pressure					
8) I am generally confident in my own abilities.					
9) I usually find myself just going through the motion.					
10) At times I expect things to go wrong.					
11) I just dont know where to begin? is a feeling I usually have when presented with several thin...					
12) I generally feel that I am in control of what happens in my life.					

	Strongly Agree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
13) However bad things are, I usually feel they will work out positively in the end.					
14) I often wish my life was more predictable.					
15) Whenever I try to plan something, unforeseen factors usually seem to wreck it.					
16) I generally look on the bright side of life.					
17) I usually speak my mind when I have something to say.					
18) At times I feel completely useless.					
19) I can generally be relied upon to complete the tasks I am given.					
20) I usually take charge of a situation when I feel it is appropriate.					
21) I generally find it hard to relax.					
22) I am easily distracted from tasks that I am involved with.					
23) I generally cope well with any problems that occur.					
24) I do not usually criticise myself even when things go wrong.					
25) I generally try to give 100%.					

	Strongly Agree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
26) When I am upset or annoyed I usually let others know.					
27) I tend to worry about things well before they actually happen.					
28) I often feel intimidated in social gatherings.					
29) When faced with difficulties I usually give up.					
30) I am generally able to react quickly when something unexpected happens.					
31) Even when under considerable pressure I usually remain calm.					
32) If something can go wrong, it usually will.					
33) Things just usually happen to me.					
34) I generally hide my emotion from others.					
35) I usually find it difficult to make a mental effort when I am tired.					
36) When I make mistakes I usually let it worry me for days after.					
37) When I am feeling tired I find it difficult to get going.					
38) I am comfortable telling people what to do.					

	Strongly Agree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
39) I can normally sustain high levels of mental effort for long periods.					
40) I usually look forward to changes in my routine.					
41) I feel that what I do tends to make no difference.					
42) I usually find it hard to summon enthusiasm for the tasks I have to do.					
43) If I feel somebody is wrong, I am not afraid to argue with them.					
44) I usually enjoy a challenge.					
45) I can usually control my nervousness.					
46) In discussions, I tend to back-down even when I feel strongly about something.					
47) When I face setbacks I am often unable to persist with my goal.					
48) I can usually adapt myself to challenges that come my way.					

Berkeley's Emotional Expressivity

	Strongly disagree	Disagree	Moderately disagree	Neutral	Moderately agree	Agree	Stron agr
1) Whenever I feel positive emotions, people can easily see exactly what I am feeling.							
2) I sometimes cry during sad movies.							
3) People often do not know what I am feeling.							
4) I laugh out loud when someone tells me a joke that I think is funny.							
5) It is difficult for me to hide my fear.							
6) When I'm happy, my feelings show.							
7) My body reacts very strongly to emotional situations.							
8) I've learned it is better to suppress my anger than to show it.							
9) No matter how nervous or upset I am, I tend to keep a calm exterior.							
10) I am an emotionally expressive person.							
11) I have strong emotions.							

12) I am sometimes unable to hide my feelings, even though I would like to.						
13) Whenever I feel negative emotions, people can easily see exactly what I am feeling.						
14) There have been times when I have not been able to stop crying even though I tried to stop.						
15) I experience my emotions very strongly.						
16) What I'm feeling is written all over my face.						

Psychological Well-Being

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
1) I tend to be influenced by people with strong opinions.						
2) In general, I feel I am in charge of the situation in which I live.						
3) I think it is important to have new experiences that challenge how you think about yourself an...						
4) Maintaining close relationships has been difficult and frustrating for me.						
5) I live life one day at a time and don?t really think about the future.						
6) When I look at the story of my life, I am pleased with how things have turned out.						
7) I have confidence in my opinions, even if they are contrary to the general consensus.						
8) The demands of everyday life often get me down.						
9) For me, life has been a continuous process of learning, changing and growth.						

	Strongly disagree	Moderately disagree	Slightly disagree	Slightly agree	Moderately agree	Strongly agree
10) People would describe me as a giving person, willing to share my time with others.						
11) Some people wander aimlessly through life, but I am not one of them.						
12) I like most aspects of my personality.						
13) I judge myself by what I think is important, not by the values of what others think is import...						
14) I am quite good at managing the many responsibilities of my daily life.						
15) I have not experienced many warm and trusting relationships with others.						
17) I sometimes feel as if I've done all there is to do in life.						
18) In many ways, I feel disappointed about my achievements in life.						

Questionnaire before intervention

PARTICIPANT'S CODE:

Please indicate your response to the following items by **circling one** of the numbers, which have the following meaning;

1 = strongly disagree; **2** = disagree; **3** = neither agree nor disagree; **4** = agree; **5** = strongly agree

Please answer these items carefully, **thinking about how you are generally**.

Do not spend too much time on any one item.

NO.	RESPONSES	1	2	3	4	5
1.	I usually find something to motivate me					
2.	I generally feel in control					
3.	I generally feel that I am a worthwhile person					
4.	Challenges usually bring out the best in me					
5.	When working with other people I am usually quite influential					
6.	Unexpected changes to my schedule generally throw me					
7.	I don't usually give up under pressure					
8.	I am generally confident in my own abilities					
9.	I usually find myself just going through the motions					
10.	At times I expect things to go wrong					

11.	"I just don't know where to begin" is a feeling I usually have when presented with several things to do at once					
12.	I generally feel that I am in control of what happens in my life					
13.	However bad things are, I usually feel they will work out positively in the end					
14.	I often wish my life was more predictable					
15.	Whenever I try to plan something, unforeseen factors usually seem to wreck it					
16.	I generally look on the bright side of life					
17.	I usually speak my mind when I have something to say					
18.	At times I feel completely useless					
19.	I can generally be relied upon to complete the tasks I am given					
20.	I usually take charge of a situation when I feel it is appropriate					
21.	I generally find it hard to relax					
22.	I am easily distracted from tasks that I am involved with					
23.	I generally cope well with any problems that occur					
24.	I do not usually criticize myself even when things go wrong					
25.	I generally try to give 100%					
26.	When I am upset or annoyed I usually let others know					

27.	I tend to worry about things well before they actually happen					
28.	I often feel intimidated in social gatherings					
29.	When faced with difficulties I usually give up					
30.	I am generally able to react quickly when something unexpected happens					
31.	Even when under considerable pressure I usually remain calm					
32.	If something can go wrong, it usually will					
33.	Things just usually happen to me					
34.	I generally hide my emotion from others					
35.	I usually find it difficult to make a mental effort when I am tired					
36.	When I make mistakes I usually let it worry me for days after					
37.	When I am feeling tired I find it difficult to get going					
38.	I am comfortable telling people what to do					
39.	I can normally sustain high levels of mental effort for long periods					
40.	I usually look forward to changes in my routine					
41.	I feel that what I do tends to make no difference					

42.	I usually find it hard to summon enthusiasm for the tasks I have to do					
43.	If I feel somebody is wrong, I am not afraid to argue with them					
44.	I usually enjoy a challenge					
45.	I can usually control my nervousness					
46.	In discussions, I tend to back-down even when I feel strongly about something					
47.	When I face setbacks I am often unable to persist with my goal					
48.	I can usually adapt myself to challenges that come my way					

Q.2   RYFF'S PSYCHOLOGICAL WELL-BEING SCALES (PWB)

Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences.

The score is defined by the scale below:

1	2	3	4	5	6

<<Strongly Disagree   **Strongly Agree>>**

NO.	RESPONSE	1	2	3	4	5	6

1.	I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.						
2.	In general, I feel I am in charge of the situation in which I live.						
3.	I am not interested in activities that will expand my horizons.						
4.	Most people see me as loving and affectionate.						
5.	I live life one day at a time and don't really think about the future.						
6.	When I look at the story of my life, I am pleased with how things have turned out.						
7.	My decisions are not usually influenced by what everyone else is doing.						
8.	The demands of everyday life often get me down.						
9.	I think it is important to have new experiences that challenge how you think about yourself and the world.						
10.	Maintaining close relationships has been difficult and frustrating for me.						
11.	I have a sense of direction and purpose in life.						
12.	In general, I feel confident and positive about myself.						
13.	I tend to worry about what other people think of me.						
14.	I do not fit very well with the people and the community around Me						

15.	When I think about it, I haven't really improved much as a person over the years.					
16.	I often feel lonely because I have few close friends with whom to share my concerns.					
17.	My daily activities often seem trivial and unimportant to me.					
18.	I feel like many of the people I know have gotten more out of life than I have.					
19.	I tend to be influenced by people with strong opinions.					
20.	I am quite good at managing the many responsibilities of my daily life.					
21.	I have the sense that I have developed a lot as a person over time					
22.	I enjoy personal and mutual conversations with family members or friends.					
23.	I don't have a good sense of what it is I'm trying to accomplish in life.					
24.	I like most aspects of my personality.					
25.	I have confidence in my opinions, even if they are contrary to the general consensus.					
26.	I often feel overwhelmed by my responsibilities					
27.	I do not enjoy being in new situations that require me to change my old familiar ways of doing things.					

28.	People would describe me as a giving person, willing to share my time with others.					
29.	I enjoy making plans for the future and working to make them a reality.					
30.	In many ways, I feel disappointed about my achievements in life.					
31.	It's difficult for me to voice my own opinions on controversial matters.					
32.	I have difficulty arranging my life in a way that is satisfying to me.					
33.	For me, life has been a continuous process of learning, changing, and growth.					
34.	I have not experienced many warm and trusting relationships with others.					
35.	Some people wander aimlessly through life, but I am not one of them					
36.	My attitude about myself is probably not as positive as most people feel about themselves.					
37.	I judge myself by what I think is important, not by the values of what others think is important.					
38.	I have been able to build a home and a lifestyle for myself that is much to my liking.					
39.	I gave up trying to make big improvements or changes in my life a long time ago.					

NO.							
40.	I know that I can trust my friends, and they know they can trust me.						
41.	I sometimes feel as if I've done all there is to do in life.						
42.	When I compare myself to friends and acquaintances, it makes me feel good about who I am.						

Q.3 MODIFIED DIFFERENTIAL EMOTIONS SCALE (MDES)

Participants should answer the following questions based on this scale:

1 = Not at all, 2 = A little bit, 3 = moderately, 4 = Quite a bit, and 5 = Extremely

NO.	RESPONSE	SCALE				
		1	2	3	4	5
1.	I felt amused, fun-loving, silly.					
2.	I felt angry, irritated, annoyed.					
3.	I felt ashamed, humiliated, disgraced.					
4.	I felt awe, wonder, amazement.					
5.	I felt contemptuous, scornful, disdainful.					
6.	I felt disgust, distaste, revulsion.					
7.	I felt embarrassed, self-conscious, blushing.					
8.	I felt grateful, appreciative, thankful.					

NO.						
9.	I felt guilty, repentant, or blameworthy					
10.	I felt hate, distrust, or suspicion					
11.	I felt hopeful, optimistic, encouraged.					
12.	I felt inspired, uplifted, elevated.					
13.	I felt interested, alert, curious.					
14.	I felt glad, happy, joyful.					
15.	I felt love, closeness, trust.					
16.	I felt proud, confident, self-assured.					
17.	I felt sad, downhearted, unhappy.					
18.	I felt scared, fearful, or afraid.					
19.	I felt content, serene, peaceful.					
20.	I felt stressed, nervous, overwhelmed.					

Q.4   MENTAL SKILLS ASSESSMENT

NO.	QUESTIONS	RESPONSE	
		Yes	No
1.	Did you perform a relaxation technique before your intervention program?		

2.	Did you use a relaxation strategy during your intervention program?		
3.	Did you mentally rehearse prior to your intervention program		
4.	Did you use imagery during your intervention program?		
5.	Did you perform any self statements during your intervention program?		
6.	Did you use positive self-talk or coping self-statements during your intervention program?		
7.	Did you set any goals (personal or performance) before your intervention program?		
8.	Did you have a particular mental skill(s) goal for today's intervention program?		

PIS Control Group

Participant Information Sheet

Title of Study

Mental toughness, Positive emotions, and Psychological well-being

Invitation to research

My name is Eniola Adeyemi; I am conducting this research as a student in the Department of Psychology at Manchester Metropolitan University, Manchester, United Kingdom. My contact details are provided at the end of the information sheet. You are cordially invited to take part in a research study, and before you decide, you need to have a clear understanding of the research, what the research entails, and why it is being done. Please take time to read the

information carefully and feel free to ask for more information or an explanation of something you do not understand.

Why have I been invited?

You have been approached because the study requires information from Manchester Metropolitan University students in any programme of study. The current study is about mental toughness, positive emotions, and psychological well-being among university students. The study focuses on measuring your well-being over a period of 4 weeks.

Do I have to take part?

It is up to you to decide. You need to go through the information sheet and if you decide to participate you need to click a button on the consent form for you to proceed with the study. If you decide to withdraw from the study before submitting your responses, simply close your browser. Choosing to withdraw from the study will not affect you legal rights in any way. In addition, you will not be asked to provide any reason.

What will I be asked to do?

If you decide to take part, you will then be asked to fill in online questionnaires; one questionnaire will be about mental toughness. The other two questionnaires will be on positive emotion and psychological well-being. You will be asked to fill in the questionnaires at the beginning of the study, in the middle (week 2) and at the end of the study (week 4). The questionnaire will take approximately 20 minutes of your time. Please be assured that even if you decide to take part in the research, you do not have to answer any question in the questionnaire that you do not feel comfortable answering.

Are there any risks if I participate?

There are no potential risks anticipated with participating in this study that are beyond those encountered in everyday life. However, if you experience any distress following participation you are encouraged to inform the researcher and contact the resources provided at the end of this form. All responses will be confidential and anonymised, and participants will not be identified in any publication. The researcher will be ready to discuss any concerns you may have about the questionnaires.

Are there any benefits to taking part?

There will be no benefit in participating in the study.

Will my data be identifiable?

The information you provide is confidential and anonymous. Any information and opinions you give us will be confidential. Our records will refer to you as a number code rather than a name. Your information will be treated with the strictest confidence.

The data collected for this study will be stored securely and only the researchers conducting this study and study auditors will have access to the data:

At the end of the study, online questionnaires will be stored for 5 years. At the end of this period, they will be destroyed.

Files on the computer that include your data will be encrypted (that is no one other than the researcher will be able to access them) and the computer itself password protected.

All your personal sensitive data will be confidential and will be stored separately from your questionnaire responses (i.e. research data).

At the end of the study, all data will be stored securely in a password-protected computer and the files themselves will be encrypted (that is no one other than the research team will be able to access them).

What will happen with the data I provide?

When you agree to participate in this research, we will collect from you personally-identifiable information.

The Manchester Metropolitan University ('the University') is the Data Controller in respect of this research and any personal data that you provide as a research participant.

The University is registered with the Information Commissioner's Office (ICO), and manages personal data in accordance with the General Data Protection Regulation (GDPR) and the University's Data Protection Policy.

We collect personal data as part of this research (such as name, telephone numbers or age). As a public authority acting in the public interest, we rely upon the 'public task' lawful basis.

When we collect special category data (such as medical information or ethnicity), we rely upon the research and archiving purposes in the public interest lawful basis.

Your rights to access change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained (but will destroy the research data). To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information by contacting ethics@mmu.ac.uk.

As a university we use personally-identifiable information to conduct research and our legal basis for processing personal data is a 'public task'. As a publicly-funded organisation, we have to ensure that it is in the public interest when we use personally-identifiable information from people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use your data in the ways needed to conduct and analyse the research study.

Research should serve the public interest, which means that we have to demonstrate that our research serves the interests of society as a whole. We do this by following the UK Policy Framework for Health and Social Care Research.

If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO).

Our Data Protection Officer is Christopher Woolley (contact C.Woolley@mmu.ac.uk or legal@mmu.ac.uk).

What will happen to the results of the study?

The results will be summarised and reported in a dissertation/thesis and may be submitted for publication in an academic or professional journal.

Who has reviewed this research project?

This study has been reviewed and approved by the Department of Psychology and approved by the Faculty of Health and Social Care; Research Ethics Committee at Manchester Metropolitan University.

Where can I obtain further information about the study if I need it?

If you have any questions about the study, please contact the main researcher: Abosede.e.adeyemi2@stu.mmu.ac.uk

Who do I contact if I have concerns about this study or I wish to complain?

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

The Director of Study

Professor Marc Jones *BSc, PhD, C.Psychol*,

Department of Psychology | Manchester Metropolitan University | Manchester | M15 6GX.

Tel: 0161 247 2364 | Email: marc.jones@mmu.ac.uk

If you wish to speak to someone outside of the Department of Psychology, you may also contact:

Professor Juliet Goldbart

Faculty Head of Ethics

Tel: +44 (0)161 247 5914 │Email: J.Goldbart@mmu.ac.uk

Faculty of Health, Psychology & Social Care │Manchester Metropolitan University │Manchester │M15 6GX

Resources in the event of distress/ Concerns

Should you feel distressed or concerned as a direct result of taking part in this study, please contact the following organisations for assistance

The Compassionate Mind Foundation@ Tel: 01332 742722

Mind local @ Tel: 0161 769 5732:

Anxiety UK @ Tel: 08444 775 774/0161 226 7727

Samaritans Behavioral Health @ Tel: 0800-351-7347

Thank you for taking the time to read this information sheet.

Questionnaire after Intervention

PARTICIPANT'S NAME:

Q.1 MENTAL TOUGHNESS QUESTIONNAIRE

Please indicate your response to the following items by **circling one** of the numbers, which have the following meaning;

1 = strongly disagree; **2** = disagree; **3** = neither agree nor disagree; **4** = agree; **5** = strongly agree

Please answer these items carefully, **thinking about how you are generally**.

Do not spend too much time on any one item.

NO.	RESPONSE	1	2	3	4	5
1.	I usually find something to motivate me					
2.	I generally feel in control					
3.	I generally feel that I am a worthwhile person					
4.	Challenges usually bring out the best in me					
5.	When working with other people I am usually quite influential					
6.	Unexpected changes to my schedule generally throw me					
7.	I don't usually give up under pressure					
8.	I am generally confident in my own abilities					
9.	I usually find myself just going through the motions					
10.	At times I expect things to go wrong					
11.	"I just don't know where to begin" is a feeling I usually have when presented with several things to do at once					
12.	I generally feel that I am in control of what happens in my life					

13.	However bad things are, I usually feel they will work out positively in the end					
14.	I often wish my life was more predictable					
15.	Whenever I try to plan something, unforeseen factors usually seem to wreck it					
16.	I generally look on the bright side of life					
17.	I usually speak my mind when I have something to say					
18.	At times I feel completely useless					
19.	I can generally be relied upon to complete the tasks I am given					
20.	I usually take charge of a situation when I feel it is appropriate					
21.	I generally find it hard to relax					
22.	I am easily distracted from tasks that I am involved with					
23.	I generally cope well with any problems that occur					
24.	I do not usually criticize myself even when things go wrong					
25.	I generally try to give 100%					
26.	When I am upset or annoyed I usually let others know					
27.	I tend to worry about things well before they actually happen					
28.	I often feel intimidated in social gatherings					

No.	Statement					
29.	When faced with difficulties I usually give up					
30.	I am generally able to react quickly when something unexpected happens					
31.	Even when under considerable pressure I usually remain calm					
32.	If something can go wrong, it usually will					
33.	Things just usually happen to me					
34.	I generally hide my emotion from others					
35.	I usually find it difficult to make a mental effort when I am tired					
36.	When I make mistakes I usually let it worry me for days after					
37.	When I am feeling tired I find it difficult to get going					
38.	I am comfortable telling people what to do					
39.	I can normally sustain high levels of mental effort for long periods					
40.	I usually look forward to changes in my routine					
41.	I feel that what I do tends to make no difference					
42.	I usually find it hard to summon enthusiasm for the tasks I have to do					
43.	If I feel somebody is wrong, I am not afraid to argue with them					
44.	I usually enjoy a challenge					

45.	I can usually control my nervousness					
46.	In discussions, I tend to back-down even when I feel strongly about something					
47.	When I face setbacks I am often unable to persist with my goal					
48.	I can usually adapt myself to challenges that come my way					

Q.2   RYFF'S PSYCHOLOGICAL WELL-BEING SCALES (PWB)

Please indicate your degree of agreement (using a score ranging from 1-6) to the following sentences.

NO.	RESPONSE	1	2	3	4	5	6
1.	I am not afraid to voice my opinions, even when they are in opposition to the opinions of most people.						
2.	In general, I feel I am in charge of the situation in which I live.						
3.	I am not interested in activities that will expand my horizons.						
4.	Most people see me as loving and affectionate.						
5.	I live life one day at a time and don't really think about the future.						
6.	When I look at the story of my life, I am pleased with how things have turned out.						
7.	My decisions are not usually influenced by what everyone else is doing.						
8.	The demands of everyday life often get me down.						
9.	I think it is important to have new experiences that challenge how you think about yourself and the world.						
10.	Maintaining close relationships has been difficult and frustrating for me.						

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11.	I have a sense of direction and purpose in life.					
12.	In general, I feel confident and positive about myself.					
13.	I tend to worry about what other people think of me.					
14.	I do not fit very well with the people and the community around Me					
15.	When I think about it, I haven't really improved much as a person over the years.					
16.	I often feel lonely because I have few close friends with whom to share my concerns.					
17.	My daily activities often seem trivial and unimportant to me.					
18.	I feel like many of the people I know have gotten more out of life than I have.					
19.	I tend to be influenced by people with strong opinions.					
20.	I am quite good at managing the many responsibilities of my daily life.					
21.	I have the sense that I have developed a lot as a person over time					
22.	I enjoy personal and mutual conversations with family members or friends.					

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23.	I don't have a good sense of what it is I'm trying to accomplish in life.					
24.	I like most aspects of my personality.					
25.	I have confidence in my opinions, even if they are contrary to the general consensus.					
26.	I often feel overwhelmed by my responsibilities					
27.	I do not enjoy being in new situations that require me to change my old familiar ways of doing things.					
28.	People would describe me as a giving person, willing to share my time with others.					
29.	I enjoy making plans for the future and working to make them a reality.					
30.	In many ways, I feel disappointed about my achievements in life.					
31.	It's difficult for me to voice my own opinions on controversial matters.					
32.	I have difficulty arranging my life in a way that is satisfying to me.					
33.	For me, life has been a continuous process of learning, changing, and growth.					

34.	I have not experienced many warm and trusting relationships with others.					
35.	Some people wander aimlessly through life, but I am not one of them					
36.	My attitude about myself is probably not as positive as most people feel about themselves.					
37.	I judge myself by what I think is important, not by the values of what others think is important.					
38.	I have been able to build a home and a lifestyle for myself that is much to my liking.					
39.	I gave up trying to make big improvements or changes in my life a long time ago.					
40.	I know that I can trust my friends, and they know they can trust me.					
41.	I sometimes feel as if I've done all there is to do in life.					
42.	When I compare myself to friends and acquaintances, it makes me feel good about who I am.					

Q.3 MODIFIED DIFFERENTIAL EMOTIONS SCALE (MDES)

Participants should answer the following questions based on this scale:

1 = Not at all, 2 = A little bit, 3 = moderately, 4 = Quite a bit, and 5 = Extremely

NO.	RESPONSE	SCALE				
		1	2	3	4	5
1.	I felt amused, fun-loving, silly.					
2.	I felt angry, irritated, annoyed.					
3.	I felt ashamed, humiliated, disgraced.					
4.	I felt awe, wonder, amazement.					
5.	I felt contemptuous, scornful, disdainful.					
6.	I felt disgust, distaste, revulsion.					
7.	I felt embarrassed, self-conscious, blushing.					
8.	I felt grateful, appreciative, thankful.					
9.	I felt guilty, repentant, or blameworthy					
10.	I felt hate, distrust, or suspicion					
11.	I felt hopeful, optimistic, encouraged.					
12.	I felt inspired, uplifted, elevated.					
13.	I felt interested, alert, curious.					

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14.	I felt glad, happy, joyful.					
15.	I felt love, closeness, trust.					
16.	I felt proud, confident, self-assured.					
17.	I felt sad, downhearted, unhappy.					
18.	I felt scared, fearful, or afraid.					
19.	I felt content, serene, peaceful.					
20.	I felt stressed, nervous, overwhelmed.					

Q.4   MENTAL SKILLS ASSESSMENT

NO.	QUESTIONS	RESPONSE	
		Yes	No
1.	Did you perform a relaxation technique before your intervention program?		
2.	Did you use a relaxation strategy during your intervention program?		
3.	Did you mentally rehearse prior to your intervention program		

4.	Did you use imagery during your intervention program?		
5.	Did you perform any self statements during your intervention program?		
6.	Did you use positive self-talk or coping self-statements during your intervention program?		
7.	Did you set any goals (personal or performance) before your intervention program?		
8.	Did you have a particular mental skill(s) goal for today's intervention program?		

Q.5   CLARITY AND VIVIDNESS OF THE GUIDED MEDITATION TASK

1.   Please rate the clarity of the Guided meditation Task

1	2	3	4	5	6	7

Not Clear At All   Moderately Clear   Very Clear

2.   Please rate the vividness of the Guided meditation Task

1	2	3	4	5	6	7

Not Vivid At All   Moderately Vivid   Very Vivid

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Q.6   **SOCIAL VALIDATION QUESTIONNAIRE**

The Social Validation Questionnaire will be use to assess each participant's overall satisfaction with the intervention, using a 5-point Likert type scale (1 = "not at all useful" and 5 = "extremely useful").

Please indicate your response to the following items by circling one of the numbers, which have the following meaning:

1 = not at all useful; 2 = not useful; 3 = neither useful nor not useful; 4 = useful;

5 = extremely useful

Please answer these items carefully, thinking about how you are generally.

NO.	QUESTIONS	1	2	3	4	5
1	How important is it for you to improve well-being?					
2	How important is it for you to improve your mental toughness?					
3	How important is it for you to improve self-confidence?					
4	Did you see improvement in your well-being over the course of the intervention?					
5	Did you see improvement in mental toughness over the					

	course of the intervention?					
6	Did you see improvement in self-confidence over the course of the intervention?					
7	Did you enjoy the mental toughness training program?					
8	Did you enjoy the technique of relaxation?					
9	Did you enjoy the technique of mental imagery?					
10	Did you enjoy the technique of positive self-talk?					
11	Did you enjoy the technique of goal setting?					
12	Are you satisfied with the results of this intervention?					
13	Did you consider this intervention to be useful?					

Additional Comments:

_____

_____

_____

_____

Participant Information Sheet

Title of Study

Mental toughness, Positive emotions, and Psychological well-being

1. Invitation to research

My name is Eniola Adeyemi; I am conducting this research as a student in the Department of Psychology at Manchester Metropolitan University, Manchester, United Kingdom. My contact details are provided at the end of the information sheet. You are cordially invited to take part in a research study, and before you decide, you need to have a clear understanding of the research, what the research entails, and why it is being done. Please take time to read the information carefully and feel free to ask for more information or an explanation of something you do not understand.

Why have I been invited?

You have been approached because the study requires information from University students in any programme of study. The current study is about positive emotions, mental toughness and psychological well-being among university students.

Do I have to take part?

It is up to you to decide. We will describe the study and go through the information sheet, which we will send to you. We will then ask you to click a button on the consent form for you to proceed with the study. If you decide to withdraw from the study before submitting your responses, simply close your browser. Choosing to withdraw from the study will not affect you legal rights in any way. Also, you will not be asked to provide any reason.

What will I be asked to do?

If you decide to take part in the study you will be asked to complete some weekly activities over the four-week course. The tasks will comprise completing some questionnaires and doing the 24 sessions of meditation (6 a week) over the 4 weeks as directed.

You will complete an online questionnaire on three occasions; at baseline, week 2 and week 4 after you finish the meditation. One of the questionnaires will be on mental toughness. The other two questionnaires will be on positive emotion and psychological well-being. Before the start of the intervention, you will be asked to fill an online questionnaire. After, which you will be starting the practice of guided meditation on loving kindness meditation and psychological skills, which will be in audio form. You will also be asked to keep a personal journal (diary) by writing a few lines and recording all of your accomplishments no matter how small on a daily basis; in order to monitor your progress in personal development. The diary will be personal to you.

The questionnaires will take about 20mins of your time and the meditation will take about 30 minutes to practice, six days in a week. During the last week of the intervention, which is the week 4, the meditation practice will be around 60mins for three days. This is because it summarises the meditational practice completed in the course. Please be assured that even if you decide to take part in the research, you do not have to answer any question in the questionnaire that you are not comfortable about answering.

The activities (task) will be released via an email on a daily basis for 6 days a week, over the 4 weeks, with one day in each week off. .

In addition, you will be contacted for an optional interview after the four weeks of meditation practice. If you agree to be interviewed, you will be asked to indicate it on the qualtrics; so that we can send you a Participant Information Sheet for the interview and a consent form for the interview through your email.

Are there any risks if I participate?

There are no potential risks anticipated with participating in this study that are beyond those encountered in everyday life. However, if you experience any distress following participation you are encouraged to inform the researcher and contact the resources provided at the end of this sheet. All responses will be confidential and anonymised, and participants will not be identified in any publication. The researcher will be ready to discuss any concerns you may have about the questionnaires.

Are there any benefits to taking part?

As yet there are no known direct benefits in taking part.

Will my data be identifiable?

The information you provide is confidential and anonymous. Any information and opinions you give us will be confidential. Our records will refer to you as a number code rather than a name. Your information will be treated with the strictest confidence.

The data collected for this study will be stored securely and only the researchers conducting this study and study auditors will have access to the data:

o   At the end of the study, online questionnaires will be stored for 5 years. At the end of this period, they will be destroyed.

o   Consent forms will be in electronic form, which imply that no one other than the researcher will be able to access them and the computer itself will be password protected. This will be on the researcher's personal system for about 5 year.

o   Files on the computer that include your data will be encrypted (that is no one other than the researcher will be able to access them) and the computer itself password protected.

o   All your personal sensitive data will be confidential and will be stored separately from your questionnaire responses (i.e. research data).

o   At the end of the study, all data will be stored securely in a password-protected computer and the files themselves will be encrypted (that is no one other than the research team will be able to access them).

What will happen with the data I provide?

When you agree to participate in this research, we will collect from you personally-identifiable information.

The Manchester Metropolitan University ('the University') is the Data Controller in respect of this research and any personal data that you provide as a research participant.

The University is registered with the Information Commissioner's Office (ICO), and manages personal data in accordance with the General Data Protection Regulation (GDPR) and the University's Data Protection Policy.

We collect personal data as part of this research (such as name, telephone numbers or age). As a public authority acting in the public interest, we rely upon the 'public task' lawful basis. When we collect special category data (such as medical information or ethnicity), we rely upon the research and archiving purposes in the public interest lawful basis.

Your rights to access change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained.

Your rights to access, change or move your information are limited, as we need to manage your information in specific ways in order for the research to be reliable and accurate. If you withdraw from the study, we will keep the information about you that we have already obtained (but will destroy the research data). To safeguard your rights, we will use the minimum personally-identifiable information possible.

You can find out more about how we use your information by contacting ethics@mmu.ac.uk.

As a university we use personally-identifiable information to conduct research and our legal basis for processing personal data is a 'public task'. As a publicly-funded organisation, we have to ensure that it is in the public interest when we use personally-identifiable information from people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use your data in the ways needed to conduct and analyse the research study.

Research should serve the public interest, which means that we have to demonstrate that our research serves the interests of society as a whole. We do this by following the UK Policy Framework for Health and Social Care Research.

If you wish to raise a complaint on how we have handled your personal data, you can contact our Data Protection Officer who will investigate the matter. If you are not satisfied with our response or believe we are processing your personal data in a way that is not lawful you can complain to the Information Commissioner's Office (ICO).

Our Data Protection Officer is Christopher Woolley (contact <u>C.Woolley@mmu.ac.uk</u> or <u>legal@mmu.ac.uk</u>).

What will happen to the results of the study?

The results will be summarised and reported in a dissertation/thesis and may be submitted for publication in an academic or professional journal.

Who has reviewed this research project?

This study has been reviewed and approved by the Department of Psychology and approved by the Faculty of Health and Social Care; Research Ethics Committee at Manchester Metropolitan University.

Where can I obtain further information about the study if I need it?

If you have any questions about the study, please contact the main researcher: <u>Abosede.e.adeyemi2@stu.mmu.ac.uk</u>

Who do I contact if I have concerns about this study or I wish to complain?

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

The Director of Study

Professor Marc Jones *BSc, PhD, C.Psychol*,

Department of Psychology | Manchester Metropolitan University | Manchester | M15 6GX.

Tel: 0161 247 2364 | Email: <u>marc.jones@mmu.ac.uk</u>

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Professor Juliet Goldbart

Faculty Head of Ethics

Tel: +44 (0)161 247 5914 │Email: J.Goldbart@mmu.ac.uk

Faculty of Health, Psychology & Social Care │Manchester Metropolitan University │Manchester │M15 6GX

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Mind local @ Tel: 0161 769 5732:

Anxiety UK @ Tel: 08444 775 774/0161 226 7727

Samaritans Behavioral Health @ Tel: 0800-351-7347

Thank you for taking the time to read this information sheet.

Open ended Question

1.   Did you practice the meditation on your own?   Yes or No

2.   Has the meditation been effective?   Yes or No

Please rate how often in a week did you practice your meditation following the initial contact.

1	2	3	4	5	6	7

Not frequent   Frequently   Very Frequent

Please rate the impact of the meditation on your general well-being.

1	2	3	4	5	6	7

Not impactful   Impactful   Very Impactful

Please rate the effectiveness of the intervention since the time that you started the intervention.

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1	2	3	4	5	6	7	not

effective   effective   very effective

at all

Please rate the ineffectiveness of the intervention since the time that you started the intervention.

1	2	3	4	5	6	7

Effective   Ineffective   Very ineffective

INTERVIEW QUESTION ON MEDITATION

1. Overall what did you think of the meditation training?
2. Do you find breathing easy during the meditation?
3. Did you find it easy to adhere to the daily pattern of meditation?
4. What do you like about the meditation?
5. Do you feel you got better at meditation over the course of the training programme?
6. Which part of the meditation was most challenging?
7. Did you practice meditation on your own during the intervention in addition to the suggested exercises?

8. Do you feel that the meditation programme had a positive effect on you? (follow up with If yes how, if not why not)

9. Do you have any suggested modification for the meditation training?

10. Are you still going to continue the meditation after the intervention?

Debrief Sheet

Title of Study

Mental toughness, Positive emotions, and Psychological well-being

Thank you statement:

Thank you very much for taking part in my research. The data you contribute will help me to complete my dissertation, which is focussed on mental toughness, positive emotions, and psychological well-being among university students. You have been approached because you are students.

Interested people are invited to participate in this study. The study aim is to study the impact and effectiveness of loving kindness meditation and psychological skill training on mental toughness, positive emotions, and psychological well-being. The results from this study are expected to cultivate positive emotions, develop mental toughness, and enhance psychological well-being.

In this study, you are asked to practice a breathing exercise, gratitude, loving kindness meditation and visualisation; all delivered as a meditational script in an audio form. The main aim of the meditational script is to ensure that you use the positive mantras and affirmations repeatedly every day. The isochronic tone and binaural beat mixed with water sound background for the guided meditation were the brainwaves entertainment. The brainwaves frequencies are used to enhance focus and concentration during meditation. This background sound makes the meditation environment more serene and natural. The brainwaves entertainment is expected to help you to go beyond the analytical mind stage of the beta brainwaves (conscious mind), to slow down the brainwaves movement of alpha brainwaves to theta brainwaves

(subconscious mind). Since the subconscious mind cannot distinguish between what is true or false, the subconscious mind picks up on the repeated positive mantras and affirmations and they become beliefs. Once they have become beliefs, the subconscious mind forms situations in your life to mirror those beliefs. Working with the Subconscious mind is important to creating new beliefs, new thoughts, and a new positive program on your subconscious mind.

What happens next?

I will now start analysing the data from all participants. In the two weeks following your participation. You may still choose to withdraw from the study if you no longer wish your data to be used. In that case, you will have to provide us with the unique code on the questionnaire if you decide to withdraw from the study. The researcher will ensure all other information associated with the code are deleted.

What if I need to speak with someone following participation?

I hope you find participating in this study a positive and interesting experience. If, however, the experience has brought up difficult feelings, or left you feeling distressed, I would encourage you to contact one of the services listed below:

Resources in the event of distress/ Concerns

Should you feel distressed or concerned as a direct result of taking part in this study, please contact the following organisations for assistance

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Mind local @ Tel: 0161 769 5732:

Anxiety UK @ Tel: 08444 775 774/0161 226 7727

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Samaritans Behavioral Health @ Tel: 0800-351-7347

Questions

If you would like a lay summary of the results, I would be happy to send this to you upon the study's completion. Please let me know if you do require this summary so I can make a note and ensure that I send it to you.

Finally, if you have any further questions, or want an update on the research, please feel free to contact the main researcher, using the details provided: Abosede.e.adeyemi2@stu.mmu.ac.uk

Complain

If you wish to make a complaint or raise concerns about any aspect of this study and do not want to speak to the researcher, you can contact:

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Faculty Head of Ethics

Tel: +44 (0)161 247 5914 │Email: J.Goldbart@mmu.ac.uk

Faculty of Health, Psychology & Social Care │Manchester Metropolitan University │Manchester │M15 6GX

Thank you for taking the time to read this debrief sheet; your input was invaluable.

EthOS ID: 11284

Participant Identification Number:

Consent Form

Study Title: Mental toughness, Positive emotion and Psychological well-being.

We are asking if you would like to take part in a research project mental toughness, positive emotion and psychological well-being.

Before you consent to participating in the study, we ask that you read the participant information sheet and mark each box below with your initials if you agree. If you have any questions or queries before signing the consent form, please contact to the principal researcher, Eniola Adeyemi, Abosede.e.adeyemi2@stu.mmu.ac.uk.

1. I confirm that I have read the Participant Information Sheet (Date: …/…/……) and fully understand what is expected of me within this study.

2. I confirm that I have had the opportunity to ask any questions and to have them answered.

3. I understand that my participation is voluntary and

that I am free to withdraw from the study without giving any reason, if I am being affected in any way.

4. I understand that in order for my data to be withdrawn, I will need to contact the researcher via email with the inclusion of the code I have created as part of my participation.

5. I understand that failure to provide a valid code will not allow the researcher to trace my responses and remove them and they will still be included in the analysis and write up of the project.

6. I understand that the information from my responses will be pooled with other participants' responses and may be published.

7. I consent to the data generated as part of this research to be used in reports, conferences and training events.

8. I understand that any information I give will remain strictly confidential and anonymous.

9. I consent to take part in the above study and the data will be stored for 5 year.

10. I am happy to use [Zoom/Skype/phone] to conduct the interview.

Name of Participant_____ **Signature**_____ **Date** _____

Name of Researcher _____**Signature** _____**Date** _____

Consent Form

<div align="center">

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</div>

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☐

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☐
☐

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☐

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☐
☐

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☐

Name of Participant_____ Signature_____ Date
_____

Name of Researcher _____Signature _____Date
_____

The Loving-kindness Meditation and PST Script exercise

To the Study Participant

This intervention program will take about 8 weeks. You will need to commit yourself to keep a personal journal in which you write down how you are developing on a daily basis. You don't need to write a story. If you believe that you have to write a lot then this may lead to procrastination. This is a great way to track your progress in personal development. Just write a few lines and record all of your accomplishments no matter how small. You will be able to look back over the pages of your journal in the future, and if you want to know how to love yourself and others more this is a very good way.

Goal setting

Hello everyone,

Welcome to the guided meditation on breathing exercise, gratitude, loving-kindness body scan, loving-kindness meditation, positive thinking and self-talk, meditation on mental toughness and psychological well-being and visualisation and mental imagery program. This week is going to be breathing exercise.

By setting goals at the beginning of this intervention program; it will help you to give direction by motivating you to achieve your aim(s) and also assist us to maintain focus during the programme.

First, ask yourself a question: what do I want?

Secondly, you answer the question:

Write it down: By the end of the intervention; what do you want to develop among the following skills? Is it to enjoy every moment; Is it to be mindful of what you are doing; Is it to love yourself and others; Is it to improve your well-being; Is it to have a sense of direction; Is it to be independent; Is it to be more disciplined; Is it to have environmental mastery; Is it to have a good relationship with people, Is it to be more confident; Is it to view every challenge as an opportunity to grow; Is it to have control over your life and emotion and Is it to be competence and committed to your daily task?

It will be good for you to first desire it and believe that by the end of the program, you will achieve your aims and objectives). There will be goals for each week, which will be Specific, Measurable, Attainable, Realistic, and Timely.

Let your desire be filled with intention and you use your five senses to see what you want; feel it; smell it; hear it, taste it and continue to act it as if you are already there.

WEEK ONE

Breathing exercise

This section entails some breathing exercises; this is the training on the awareness of your breath. In this section, you will focus on your breath. Become aware of your breath and bring your attention to your breath and consciously relax your body.

Take a deep breath

Settle into the moment of practice.

Just take a few minutes why is it that we are meditating.

Reflect with intention, why is it that we are meditating.

Reflect on why you are meditating? is for your well-being, transformation and personal development?

What is it that meditation can bring to your life?

You must have sense that meditation can improve your quality of life.

> ➤ The way you conduct your life.
> ➤ The way you react to yourself.
> ➤ The way you react to life.
> ➤ May be you notice that you are less reflective.

Why are meditation matters; to help build meditation with intention!

Take a deep breath, settle in few moment of practice.

Create a quiet and comfortable place (safe zone) in your mind. You can mentally go to the quiet place (safe zone) for a break if any aspects of this exercise become too much or uncomfortable. Make sure to keep yourself safe and respect your limits when doing this or any other meditation exercise. Create a picture in your mind of a place of safety. Picture a place where you felt safe as a child, or a place you feel safe now or a luxury place you went to for your holiday. Think of a place you need to go to have a break. It may be a favourite room, or chair, or place outdoors.

Think of a place where you have felt safe before, and imagine this place in your mind. Picture all the details of the safe place.

Now that you have the safe place fixed in your mind, this image can serve as your safety zone throughout the whole exercise. Locate a quiet comfortable place, position yourself to sit up straight, and sit tall or lie down, but make sure you remain calm and conscious. Put your hands on your side ribs. Gently close your eyes and start by tuning into the posture of your body. It is important to keep the backbone straight and energised, whilst relaxing the muscles around the skeleton. Breathe in and out to release the tension in your body. Breathe in.... and exhale through your mouth, releasing tension. Continue breathing slowly, allowing your breaths to relax you.

Thoughts may come into your mind, and that is normal: – it is natural for your mind to wander around. Simply notice those thoughts, and then bring your attention back to your breathing.

Proceed to stage two

Smile, breath in love, health and harmony and yawn when you are breathing out and breathe out tension and stress.

This breathing awareness relaxation script will guide you to focus on each stage of a breath as you breathe slowly and gently. Focusing on your breath helps you to concentrate on slow deep breathing, which aids in separating you from distracting thoughts. Keep breathing slowly like this, emptying your lungs completely with each breath. This deep breathing calms and relaxes you…allowing your body to relax, getting just the right amount of oxygen, and helping you feel calm…. Breathe in….. and Exhale out….. Breathe in….. and Exhale out….. Breathe in….. and Exhale out…..

Begin by taking a normal breath. Now let's try a deep breath:

Breathe in slowly through your nose, allowing your chest and lower belly to rise as you fill your lungs. Let your belly expand fully.

Now breathe out slowly through your mouth (or your nose, if that feels more natural). Breathe in….. and Exhale out….. Breathe in….. and Exhale out….. Breathe in….. and Exhale out…..

Continue breathing in slowly through your nose, allowing your chest and belly to rise. You may want to place your hand on your belly as you breathe in and feel the hand rise each time you inhale and fall back each time you exhale. Remember to relax your belly so that each inhalation expands fully. Breathe in….. and Exhale out….. Breathe in….. and Exhale out….. Breathe in….. and Exhale out…..

Everyday, your breathing can relax you, making you strong and resilient, able to cope with the stressors that come your way. Breathe in….Relax, and Exhale out… Relax,.. Breathe in…. Relax,..and Exhale out… Relax,.. Breathe in… Relax,.. and Exhale out… Relax,..

While you are breathing slowly, I'll direct your breathing awareness to different stages of the breath. Focus all of your attention on each stage I mentioned.

First, notice the breath as it enters your nose. Notice each time you breathe in, the way the breath feels on your nostrils.

Feel the breathe as it passes through your nasal passages, and down behind your throat. Feel each time you inhale, the breath passing down your windpipe.

For practice: Breathe in to the count of three, hold for the count of three, and breathe out to the count of three.

Let's begin. Throughout this breathing awareness exercise, breathe in this way:

Breathe in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Breathe in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Breathe in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Breathe in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Breathe in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

As you exhale, yawn and exhale through your mouth.

Pause …………..

Breathe in to the count of four, hold for the count of 3, and breathe out to the count of 5.

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Breathe in...2....3....4..... hold...2...3....exhale...2....3....4....5...

Breathe in...2....3....4..... hold...2...3....exhale...2....3....4....5...

Breathe in...2....3....4..... hold...2...3....exhale...2....3....4....5...

Breathe in...2....3....4..... hold...2...3....exhale...2....3....4....5...

As you exhale, yawn and exhale through your mouth.

Pause …………..

Continue to breathe at this slow pace.

Now as you relax... you can count your breaths as they continue to flow gently. Count 12 breaths.

(pause)

It goes like this:

Breathe in...2....3....4..... hold...2...3...4.exhale...2....3....4....5...

Breathe in...2....3....4..... hold...2...3....4 exhale...2....3....4....5...

Breathe in...2....3....4..... hold...2...3....4 exhale...2....3....4....5...

Breathe in...2....3....4..... hold...2...3....4 exhale...2....3....4....5...

Let's increase the inhale and exhale to the count of 5-5-6

Continue to breathe at this slow pace of 5-5-6.

Breathe in...2....3....4...5…. hold...2...3....4…5… exhale...2....3....4....5...6…

Breathe in...2....3....4...5…. hold...2...3....4…5… exhale...2....3....4....5...6…

Breathe in...2....3....4...5…. hold...2...3....4…5… exhale...2....3....4....5...6…

Breathe in...2....3....4...5…. hold...2...3....4…5… exhale...2....3....4....5...6…

Let increase the inhale and exhale to the count of 6-6-7

Continue to breathe at this slow pace 6-6-7

Breathe in...2....3....4....5…6…. hold...2...3...4…5….6….exhale...2....3....4....5....6….7

Breathe in...2....3....4....5…6…. hold...2...3...4…5….6….exhale...2....3....4....5....6….7

Breathe in...2....3....4....5…6…. hold...2...3...4…5….6….exhale...2....3....4....5....6….7

Breathe in...2....3....4....5…6…. hold...2...3...4…5….6….exhale...2....3....4....5....6….7

(pause)

When you finished counting your breaths, notice how you are calm and relaxed. See how regular your breathing has become... how calm your breathing is.

You can reawaken your body and return to the present, when you are ready to return to your day. I'll count to five. With each number, you can become more and more alert, reaching full alertness when I reach 7.

Breathe   in...2....3....4...5….6…..7….   hold...2...3....4…5…6….7…. exhale...2....3....4....5...6…7…

Keep breathing smoothly and calmly. You can breathe like this any time, drawing in relaxation, releasing any tension that accumulates through the day.

You may now return to your usual activities, feeling calm and relaxed. Have a wonderful relaxing day.

(Ring bell).

WEEK TWO

Loving kindness body scan meditation

Welcome to the second week of guided meditation on loving-kindness body scan. This week is going to be body scan meditation.

Take a deep breath in ...1....2....3..... hold....1….2...3.... let the breath out....1....2...3.....

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Last time take a deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Be yourself connecting to yourself. Relax I want you to focus on your feet. Put your attention to connect to the base of your feet.

Begin to settle into your posture: close your eye: bring your attention into your backbone. Fill how you old your body. See if you can be aware of your body within the space around it by becoming aware of the sensation; becoming aware of the perception of sensation, smell in your environment, sensation of thought, taste in your mouth in particular bring your awareness to your backbone and let it grow upward and stretch, notice how siting upright brings energy and attention to the body and your thought.

Send loving kindness to your body: Start the body scans by tuning into the crown of your head and bring your awareness to the top of the head, tuning into whatever is present for you. Feel the skin of the scalp and the temperature of the air on the skin and your hair.

Send loving kindness phrases to your head, hair, and skin:

May my head be filled with love.

May my hair be filled with love.

May my skin be filled with love.

Still with your eyes closed, Shift your awareness to your eyes and your cheekbones. Continue down to the tip of the nose and upper lip. Here you can feel the body breathing gently and naturally. You may notice the air tickling on its way in, and coming out just a little bit warmer.

Send loving kindness phrases to your eyes, cheekbones, nose and upper lip:

May my eyes be filled with love.

May my cheekbones be filled with love.

 May my nose be filled with love.

May my lip be filled with love.

Move down into the neck and throat, noticing any tension or any movement of the body with the breath. Remember, there is nothing you should be experiencing; there is no right or wrong. Change into the direct physical experience; Let go of the judgements and thoughts, and return to the actual physical body. You can move out the tops of the shoulders and into shoulder blades, perhaps noticing any movement with the breath or the sensation of the clothes on the body.

Send loving kindness phrases to the neck, throat, and shoulder blades.

May my neck be filled with love.

May my throat be filled with love.

May my shoulder blades be filled with love.

May my shoulder be filled with love.

Dropping down into the upper arms and elbows, again just tune into whatever is directory present in your experience. Continue down into the forearms and wrists, perhaps noticing any points of contact. Maybe your arms are resting in your lap or on the arms of the chair, and just notice how that feels.

Send loving kindness phrases to the upper arms, elbows, forearms and wrists.

May my upper arms be filled with love.

May my elbows be filled with love.

May my forearms and wrists be fill with love.

And moving into the hands, go over the palms, the fingers, and the back of the hand. Notice any points of contact where the hands may be touching each other or resting in the lap. You may notice that the temperature of the air feels different on the back of the hand than it does on the palm.

Send loving kindness phrases to the palms, the fingers, and the hand.

May my hand be filled with love.

May my palms be filled with love.

May my fingers be filled with love.

Bring your attention to rest on the breath in the centre of the chest; the heart centre and rest here for a moment, tuning in to the body breathing. Breathe in and out, gently, allowing the breath to be soft and relax. You can notice the rising and falling, the expansion and contraction, the natural movement of the body breathing itself. Gently breath in; say out to yourself; May I be peaceful in the centre of the chest; the heart centre. Gently breathe in; May I be peaceful all the way to the top of the head; the tip of the finger, to the sole of the feet. Breathe in gently in and out of this heart; wish this body from to be happy from the top of the head to the soul of the feet.

(Allow a few moments to sit with the breath in the chest)

Send loving kindness phrases to the chest and heart:

May my chest be filled with love.

May my heart be filled with love.

May I be free from inner and outer harm into the heart centre, breathe in gently sensing this in human body.

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As you drop down into the abdomen and stomach, again you may notice the sensations of the body breathing. Rest your awareness with the body and just stick with whatever sensations arise.

Send loving kindness phrases to the abdomen and stomach.

May my abdomen be filled with love.

May my stomach be filled with love.

Drop down into the hips, the pelvis, and the bottom. You can probably feel the point of contact where your body meets the chair or cushion, and taking a moment to feel these sensations. If you need a break during this this exercise, you can mentally return to this place by imagining your safety zone. Do so whenever you need to.

Send loving kindness phrases to the hips, the pelvis, and the bottom.

May my hips be filled with love.

May my pelvis be filled with love.

May my bottom be filled with love.

Move on into the thighs and knees, noticing any points of contact, any tensions, the clothes on the body, and anything else present in your direct experience.

Drop into the calves, shins, and ankles, seeing what's present for you. Perhaps there is some ease, or some jittery or anxious feeling in the legs. Whatever is present, be with it.

Finally, move into the feet, going over the heel, the arch, the ball of the foot, the toes, and the top of the foot. Tune into the points of contact where the feet are touching the ground or tucked up underneath you.

Take a moment here at the end to tune into the whole body together, from head to toe. You may be able to feel the breath energy as it moves through the body. You can get a sense of the entire outline or posture of the body as it rests here.

Allowing the attention to return to the sensation of breathing. Bring your attention to the breath, allow it to be soft and relax. Breathe into your head; gently breathe in from top to bottom.

Repeat these phrases:

May I live with love.

May I be peaceful. Allow the attention to rest on the sensation of the chest.

May I be happy, breathe it from the top of the head to the soul

May I be free from inner and outer harm; breathe in gently into the heart centre.

May I be worthy of love.

May I live with ease, sensing the body just as it is.

Sensing this body just as it is. Breathe in and breath out of this heart center. Rest the next phrase into the heart center. May I care for myself with joy. Breath in and out of this heart: Then fill this body with joy, love and delight. Allow the attention to rest on your breath…relax.

WEEK THREE

GRATITUDE

Welcome to the third week of guided meditation on gratitude. This week is going to be gratitude.

Make a decision with the intention that after this program your personal development will improve; with an emotional signature of gratitude. Develop an attitude of gratitude. Be grateful for all you have and give thanks in advance for everything you want.

Physically feel your heart and breathe deeply into your heart. Feel the energy and power of your heart. As you breathe in, and feel the blood rushing into your heart and feel the strength of your heart, the beauty of your heart and the gift of your heart. You don't have to work for it, it is a gift from birth and feel grateful for your heart as you hold and touch your heart. Remember something in your life that you feel grateful for. See what you saw, hear what you heard and feel what you felt then now, as you are there, feeling so grateful. Think for a second moment now, you could feel what you are grateful for. Step in and feel gratitude for that moment. Be there experience it. Let the presence of infinite intelligence heal you, your body, spirit and emotion, thought feeling and relationship. Open your heart and fall in love with moment.

Now that you are in the mode of gratitude; continue saying the following word of gratitude:

I am grateful for my heart and brain.

I am grateful for the infinite loving-kindness of the owner of my breath.

I am grateful for the infinite loving-kindness.

I am grateful for my breath.

I am grateful for every moment of my life.

I am grateful for all my being: spirit, soul and body.

I am grateful for my loved ones.

I am grateful for living and non-living.

I am grateful for my career.

I am grateful for those that proof difficult in my life, because I am able to turn adversaries to opportunity for personal development.

I am deeply grateful for all that I have received and enjoyed giving to others in the spirit of love and service.

I am grateful for all the abundance that I have.

I am grateful because I am confident .

I am grateful because I am competent.

I am grateful because I am committed to my task.

I am grateful because I turn my challenge to opportunity to grow.

I am grateful because I am in control of my life and emotion.

I am grateful because I am content with what I have.

I am grateful because I have autonomy.

I am grateful because I have positive relationship with people.

I am grateful because I have environmental mastery.

I am proud of whom I am and not ashamed of how others see me

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am grateful for my smile.

I am grateful for my happiness

I am grateful for my peace of mind.

I am grateful for my consciousness.

I am grateful for having control over my life and emotion

I am grateful for been committed to my everyday task.

I am grateful for the strength to carry on my day.

I am grateful for finding the laughter within me.

I am grateful for environmental mastery.

I am grateful for being independent.

I am grateful for my confidence.

I am grateful for the ability to visualise.

I am grateful for a loving-kind heart.

I am grateful for my positive psychological well-being.

I am grateful for being mentally tough.

I am grateful for Setting goals.

I am grateful for Attention control

I am grateful for Anxiety control.

I am grateful; for I am blessed.

I am grateful for the ability to think.

I am grateful for having positive relationships.

I am grateful for the air in my lungs.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am grateful for being healthy.

I am grateful for the water that I drink.

 I am grateful for fresh fruits.

I am grateful for my healthy organs.

I am grateful for my liver.

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I am grateful for my taste buds.

I am grateful for being affluent.

I am grateful for being excellent in everything and I do excellent things.

I am grateful for my brain.

I am grateful for my dreams.

I am grateful for Flowers

I am grateful for Vegetables

I am grateful for a healthy liver and healthy intestines.

I am grateful for the strength of the day-to-day activities.

I am grateful for making a difference in my world.

I am grateful for being content with what I have.

I am grateful for I am enough and I love myself.

Think about five other things you are grateful for and write it in a gratitude journal.

Take a deep breath and relax your whole body; while you exhale; take another deep breath and feel the air around you. Pause and relax.

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Exercises

Be in a state of gratitude for who you are.

Be able to picture what is it that you want and allow that to create your world.

Thoughts are extremely powerful: You create your thought your thought create intention, and your intention create reality.

Surrender to new consciousness. Our believes are the invisible ingredients.

You become what you think about.

This section is an exercise to build our self-image.

Reflect and write five things you are grateful for.

Stand in front of a standing mirror and say positive things to yourself for five minutes.

For example:

My mind is confidence; my body is confidence; I am confident

My mind is beautiful; my body is beautiful; I am beautiful

My mind is blessed; my body is blessed; I am blessed.

My mind is happy; my body is healthy; I am full of laughter.

My mind is creative; my body is healthy; I am a blessing to my world.

I have the secret of life within me: I have joy, inner peace.

I have the invisible ingredient within me: I have serenity, equanimity, goodwill and I am full of compassionate laughter.

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The revitalising, rejuvenating power of infinite intelligent flows through me like golding river, vitalising, transforming every atom of my being, so that every atom of my being dances to the rhythm of the infinite intelligent.

WEEK FOUR

Loving-Kindness Meditation Script

Welcome to the fourth week of guided meditation on loving-kindness meditation program. This week is going to be loving kindness meditation..

To practice loving-kindness meditation, sit in a comfortable and relaxed manner. Take two or three deep breaths with slow, long and complete exhalations. Let go of any concerns or preoccupations. For a few minutes, feel or imagine the breath moving through the centre of your chest - in the area of your heart.

Breathe in and breathe out, do it continuously for one minute.

Breathe deep into your heart: Take a breath and breathe in the power of love and breathe out fear. Become aware of the fastness of space, way out beyond you.

Something good is going to happen to me today.

Although we often use words when we are learning loving-kindness meditation, the words are only secondary props. The focus of the meditation is on a feeling, a feeling of loving-kindness. Over time the words can fade and you are simply left with the feeling. That is the aim.

Begin by offering yourself a blessing. Create an image of yourself in your mind – you as you are now, or you as a small child, and try to cultivate a soft, loving heart towards yourself. Extend grace and love to yourself. Now, imagine yourself cupped in compassionate being, tender hands. Just let yourself rest in compassionate's hands for a moment.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Now think with me:

May I experience compassionate being's love.

May I experience compassionate being's rest.

May I experience compassionate being's peace.

Pause for a few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Let us now extend our blessing to someone you love. Imagine your partner, a best friend, a sister or brother, or even a child or parent, someone who brings you deep feelings of love, tenderness, and care. Imagine this person in your mind's eye. Open your heart to this person and extend love and grace towards them. Now, imagine this person cupped in compassionate's loving, tender hands. Just let him or her rest in compassionate's hands for a moment. (Pause).

Now think with me:

May they experience compassionate being's love.

May they experience compassionate being's rest.

May they experience compassionate being's peace.

Now Let us extend our blessing to someone whom you just don't get along with. This is someone who causes tension, anger or negative emotions when you interact with them. Imagine this person in your mind's eye, and try to hold them gently in your heart, with feelings of benevolence and gentleness. If feelings of anger or tension arise, try to release these feelings to compassionate being, by just letting go and opening your heart to set these negative energies free to compassionate being's care. Now, imagine this person cupped in compassionate being's loving, tender hands. Just let him or her rest in compassionate being's hands for a moment. (Pause).

Now think with me:

May they experience compassionate being love.

May they experience compassionate being rest.

May they experience compassionate being peace.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Finally, let us extend compassionate being blessing to all beings, everywhere. All that is, all that has ever been made, all that is and was and is to come: it is all held and sustained by

compassionate love, and blessed by compassionate Spirit. Imagine a beautiful, blue-green earth in your mind, full of plants and animals and so many people, so many beings – and this whole world is in compassionate upturned palm. The whole world rests in compassionate.

Now think with me:

May all beings everywhere experience compassionate being's love.

May all beings everywhere experience compassionate being's rest.

May all beings everywhere experience compassionate being's peace.

 (Looooong pause for about 10-15 deep breaths).

Pause for a few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Still in a comfortable position on your chair or cushion, sitting with a relaxed but straight, posture, with your shoulders relaxed.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Gently close your eyes. Allow your hands to rest comfortably in your lap.

Pause for few minutes

Settling into consciousness of the body…and the breath.

Feeling into our body right now…noticing what's here.

Open to whatever is to be experienced in the body in this moment

Connecting to the breath…noticing the wave-like movements of the belly…

This practice will cultivate loving kindness. We all have within us, this natural capacity for loving-kindness, which is unconditional and open, gentle and supportive.

Loving-kindness is a natural opening of a compassionate heart to ourselves and to others. It's a wish that everyone be happy.

We begin with developing loving-kindness toward ourselves…allowing our hearts to open with tenderness. Now, allow yourself to remember and open up to your basic goodness. You might remember times you have been kind or generous. You might recall your natural desire to be happy and not to suffer. It may help to use the imagination and to picture yourself as a young child standing before you…perhaps 4 or 5 years of age… if that allows tender feelings of kindness to flow more easily…

And, as you experience this love…notice how you feel in your body. Maybe, you feel some warmth…or heat in the face. Put on a smile…a sense of expansiveness: This is loving-kindness, a natural feeling that is accessible to all of us…always. Resting with this feeling of open, unconditional love for a few minutes …(Pause)

Letting yourself bask in the energy of loving kindness…breathing it in…and breathing it out…inviting feelings of peace and acceptance…

So, beginning now to wish yourself well by extending words of loving kindness to yourself.

Wishes of loving kindness toward yourself and others; now, offering these words in your mind for yourself…

1. Sit quietly and in a comfortable way but without being in a sleepy position. For example, sit with your back straight, head up, feet on the floor and your arms gently in your lap. Breathe naturally. Watch your breath going in and your breath going out. Keep focusing on your breathing for a while.

2. Place your attention on the area around your heart. Place your attention on the area in the middle of your chest, around your heart.

Repeat to yourself gently and softly, feeling the resonance of the words: "Love, love, love, may my heart be filled with love..."

3. Experience feeling love through your whole body. Experience this feeling of warmth and love through your whole body.

Feel the sense of caring, healing and soothing. Let it wash over you and through you while you gently repeat silently to yourself:

May I be well, healthy and strong.

May I be happy.

May I abide in peace.

May I be filled with loving kindness

May I be held in loving kindness…

May I feel connected and calm…

May I accept myself just as I am…

May I know the natural joy of being alive…

And, now repeating in the mind these words of friendship and kindness to yourself once again…

May I be filled with lovingkindness

May I be held in loving kindness…

May I feel connected and calm…

May I accept myself just as I am…

May I be happy…

May I know the natural joy of being alive

4. Bring into your mind someone you like a lot and respect.

Send them these feelings of warmth and caring, as you wish them well:

May you be well.

May you be happy.

May you abide in peace.

May I be filled with loving-kindness

May I be held in loving-kindness…

May I feel connected and calm…

May I accept myself just as I am…

May I know the natural joy of being alive…

5. *Bring to mind someone else you like and respect. Now you can open the circle of loving-* kindness by bringing to mind someone who is dear to you. Someone whom you care about and who has always been supportive. Reflect on this person's basic goodness, sensing what it is in particular that you love about him or her. In your heart feel your appreciation for this dear one, and begin your simple offering… Do this with someone else who is equally important, that you like and respect. Choose someone that you find it very easy to spread loving-kindness to.

Send them these feelings of warmth and caring, as you wish them well:

May you be well.

May you be happy.

May you abide in peace.

May you be filled with loving-kindness

May you be held in loving-kindness…

May you feel my love now…

May you accept yourself just as you are…

May you be happy…

May you know the natural joy of being alive…

Now bring to mind a "neutral" person. This is someone you might see regularly but don't know well…It might be a neighbour, a grocery store clerk

Bring this person to mind now, and repeat the words of loving-kindness…

May you be filled with loving-kindness

May you be held in loving-kindness…

May you feel my love now…

May you accept yourself just as you are…

May you be happy…

May you know the natural joy of being alive…

And now, if it's possible for you, bring to mind someone with whom you've had a difficult relationship. Perhaps it's someone you don't like to feel sympathy or compassion for. Seeing if it's possible to let go of feelings of resentment and dislike for this person. Reminding yourself to see this person as a whole being…deserving of love and kindness. As someone who feels pain and anxiety…as someone who also suffers.

Seeing if it's possible to extend to this person the words of loving kindness in your mind…

May you be filled with loving-kindness

May you be held in loving-kindness…

May you feel my love now…

May you accept yourself just as you are…

May you be happy…

May you know the natural joy of being alive…

6. Bring to mind someone you feel neutral about.

Do this with someone you barely know and feel neutral about. This may be someone you have seen in the street, who you see on the bus, or pass in the corridor at work.

Send them these feelings of warmth and caring, as you wish them well:

May you be well.

May you be happy.

May you abide in peace.

Sometimes people find the feelings of loving-kindness weaken. If this happens you may always return to an earlier stage and rekindle the warmth and loving-kindness. There is no need to rush on. It is developing the quality of the feeling that matters.

Now, allow your awareness to open out in all directions…yourself, a dear one, a neutral person and a difficult person…and of all beings…humans and animals living everywhere…living in richness, poverty, war, peace, hunger, abundance…Aware of all the joys and sorrows that all beings experience…

May all beings be filled with loving-kindness…

May all beings be happy…

May all beings awaken and be free…

May all be filled with loving-kindness.

May all be held in loving kindness…

May all feel connected and calm…

May all accept myself just as I am…

May all know the natural joy of being alive…

And now, bringing this practice to a close by coming back to extend kindness to yourself. Sitting for a while and basking in the energy of loving kindness that may have been generated here.

7. Bring to mind someone you got irritated with recently.

Close up the wound of the past by forgiving difficult people in our life.

Do this with someone you got irritated/upset with today or this week. Chose someone with whom you have got mildly irritated, someone who "got up your nose". It may have been a slow driver, or someone at work. This is not the time to go to someone who has been very hurtful towards you. You can release them from your heart.

Send them these feelings of warmth and caring, as you wish them well:

Say after me; I send love to those that have hurt me. I send love to living things and non-living thing.

May you be well.

May you be happy.

May you abide in peace.

8. If you wish, bring to mind someone who's hurt you.

If you wish, do this with someone who has hurt you in the past. You may not want to do this early in your practice of loving-kindness but you may work towards including someone you carry bitterness, hatred or resentment towards. You are not condoning or approving of what they have done. You are simply allowing yourself to let the pain and anger you carry towards them to go, as the pain and anger hurts you more than anyone else.

Send them these feelings of warmth and caring, as you wish them well:

May you be well.

May you be happy.

May you abide in peace.

9. Radiate the warmth and love to the people around you.

Send the loving-kindness to everyone in your suburb, in your city, in the nation, in the world:

May you all be well,

May you all be happy,

May you all abide in peace,

10. Bring your attention back to yourself.

Then slowly let the feelings of loving-kindness ease and return once again to focusing on just your breathing. Focus once again on yourself, so the feeling of loving-kindness fills your whole being; breathing in peacefully, breathing out peacefully; at peace with yourself and the world. Now expand your awareness and picture the whole globe in front of you as a little ball. Take a

deep breath in. And breathe out. And another deep breathe in and let it go. Notice the state of your mind and how you feel after this meditation.

May I be filled with loving-kindness.

May I be safe from inner and outer dangers.

May I be well in body and mind.

May I be at ease and happy.

May I be filled with joy.

May I be filled with confidence.

May I be in control of my life and emotion.

May I be filled with commitment.

May I turn my challenges into opportunity for growth.

May I have positive relationship with people.

May I accept myself the way I am.

11. **Continue to *bring your attention back to yourself.***

Focus once again on yourself, so the feeling of loving-kindness fills your whole being; breathing in peacefully, breathing out peacefully; at peace with yourself and the world. Notice what you see as you look around in your inner world. Loving-kindness is circulating in my life-see it, feel it and imagine it. Imagine the infinite intelligence is within you. Then slowly let the feelings of loving-kindness ease and return once again to focusing on just your breathing.

Then return to once again noticing yourself sitting.

Then slowly open your eyes and return to the room.

Exercises

Be in a state of gratitude for who you are.

Be able to picture what is it that you want and allow that to create your world.

Thoughts are extremely powerful: You create your thought your thought create intention, and your intention create reality.

Surrender to new consciousness. Our believes are the invisible ingredients.

You become what you think about.

This section is an exercise to build our self-image.

Reflect and write five things you are grateful for.

Stand in front of a standing mirror and say positive things to yourself for five minutes.

For example:

My mind is confidence; my body is confidence; I am confident

My mind is beautiful; my body is beautiful; I am beautiful

My mind is blessed; my body is blessed; I am blessed.

My mind is happy; my body is healthy; I am full of laughter.

My mind is creative; my body is healthy; I am a blessing to my world.

I have the secret of life within me: I have joy, inner peace.

I have the invisible ingredient within me: I have serenity, equanimity, goodwill and I am full of compassionate laughter.

The revitalising, rejuvenating power of infinite intelligent flows through me like golding river, vitalising, transforming every atom of my being, so that every atom of my being dances to the rhythm of the infinite intelligent.

WEEK FIVE

Positive talk

Welcome to the fifth week of guided meditation on positive talk. This week is going to be positive talk affirmation.

You have within you the opportunity at this moment to really work on the things that are creating stress in your life. Sit up straight, close eyes. Take a deep breath and breathe in the power of love and feel it and breathe in any limitation. Breathe in life; breathe out fear. Surrender your creation to a greater mind.

Whatever you attach with I am with feeling, you become. Feel the word I am and let it gel to your mind. The creative intelligence: Infinite intelligence, divine love is in me now and it flows through my thought. Say it knowingly, feelingly and meaningfully.

As you say this affirmation; imagine it been completely merge with your mind; repeat them and feel it. Feel positive essence of he positive word as you repeat them. Be united with them and permit them to merge with your mind and become part of you.

Imagine all of the following affirmations are true for you.

Take a deep breath and feel wonderful and fantastic.

Breath in…3times...hold…2times…. Breath out…3times

My creative ideas come at anytime anywhere.

I am ready to play big and step up

I trust myself and instinct rather than comparing my self with other people.

I am aligned with creative intelligence moving though me.

I am confident, and my confidence is increasing.

I am fearless today and always.

Today I take action.

I am liberated from all fears of failure.

I am confident and determined.

I am naturally fearless.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I easily overcome any failure or setback.

Being confident comes to me naturally.

I stay persistence and push through setback.

I can easily overcome any life huddles.

I face anything that confronts me.

I am prepared for life and today I face my life head on.

I am fully trust in myself.

I am hundred percent confident in myself.

I am now bold and brave.

I have all the will power I ever needed.

I am in control of my life.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I easily tap into my own inner strength.

I go in the flow of life and succeed.

Being motivated and positive is normal for me.

 I always succeed in spite of setback.

My personality always shines forth.

I am out going.

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I have overcome shyness.

I am easy going, relaxed and social.

I meet new people with ease.

I speak out with confidence.

Confidence comes naturally to me.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I let go of any doubts and life becomes simple and easy for me.

I slowly breathe in and out and I find myself relaxed more and more with each breath.

I am the only power in my world, and I create a peaceful joyful fulfilling life.

I am at peace with myself.

I relax of all my neck muscle and I let go of any tension in my shoulder.

I am the center and focus.

I am lumen.

I release all fear in my life.

I love myself the way I am.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I create a stress -free world for myself.

I am a capable person.

I can be serene in any situation.

I trust myself to deal with any problem during the day.

I am inspired.

I am divinely guided.

I am doing what I love to do.

I am in my true place.

I am divinely happy.

I am divinely prosperous.

I am whole.

I am strong.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I believe that everything is working for me for good.

I have a sense of direction and purpose in life.

I am in charge of the situation in which I live.

I am interested in activities that will expand my horizons.

I am loving and affectionate.

I am pleased with how things have turned out; when I look at the story of my life.

I accept myself the way I am.

I approve of myself.

I am born to make a difference in my world.

I am contented with what I have.

I am limitless in my life.

I am powerful beyond measure.

I am serene and balanced.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I like most aspects of my personality.

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I have quality and positive relationship with people.

I have a sense of autonomy in thought and action with the ability to manage complex environments to suit personal needs and values,

I pursue meaningful goals and a sense of purpose in life and continue to grow and develop as a person.

My possibilities are endless.

I am fit, healthy and attractive.

I radiate love and happiness.

I love myself.

I always help people and make them laugh.

I work hard and have a plan for my future.

I am developing new skills, which will provide me with a better life.

I have ideas that can change my world.

I am a hero in my generation.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I always remain confident and unaffected by negative attitudes around me.

I radiate love and happiness and wealth is pouring into my life..

I am fit, healthy, and attractive.

My possibilities are endless.

I remain confident and unaffected by negative attitudes around me

My inner vision is always clear and focused.

I am worthy of love.

I possess an endless supply of creativity, energy and tolerance for any project that I assume.

I am not nervous, I am well, full of confidence and all is going well.

I am overcoming my obstacles.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am creative, resourceful, and resilient.

I am emotionally resilient.

I possess an endless supply of creativity, energy, and tolerance for any project that I assume.

I am Strong, Disciplined, Persistent, and Resilient. My Willpower is second to none. I can take much more than I think.

I have resilience and create an environment of fulfillment.

I am overcoming my obstacles.

I am creative, resourceful, and resilient.

I am emotionally resilient.

I possess an endless supply of creativity, energy, and tolerance for any project that I assume.

I am Strong, Disciplined, Persistent and Resilient. My Willpower is second to none. I can take much more than I think.

I have resilience and create an environment of fulfillment.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I speak out with confidence.

I am positive friendly and confident.

I believe in myself and I love myself.

I can stand up to any thing.

I am naturally strong.

I was born with an inner strength.

I enjoy making plans for the future and working to make them a reality. In general, I feel confident and positive about myself.

I am always learning, changing, and growth.

Then return to once again noticing yourself sitting.

I am fulfil and functioning well.

I am worthy of every great thing.

 I have excellent spirit.

 I am intelligent.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

 I have divine intelligent in me, so I am creative.

 I am the expression of divine intelligence.

 I breathe in the fullness of life.

I encourage and motivate myself.

 I am in control of my life and emotion.

 I generally feel that I am a worthwhile person

I fill myself with love and I send it out to the world.

I take responsibility for my life and I have greatness within me

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am great.

I am enjoying today, nobody will ruin today for me.

I am grateful to all those people that say no to me.

My Challenges brings out the best in me.

I am a good influence when working with other people.

I am quite influential.

I can do all things with the inner strength within me.

I am a good listener.

I am generous.

I am beautiful.

I am powerful.

I am always doing the best I can.

I am a joy to many generations.

I am always doing the best I can do.

I am a loving being.

I am happy always, doing the best.

I am a royal priesthood.

I am courageous.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I can do everything that is laid on mind to do.

I am calm, methodical and efficient person.

I can achieve difficult tasks.

I enjoy solving problems.

I love that feeling of having achieved so much in a day

I work well under pressure.

I can make a difference.

I enjoy being calm when others around me are not.

I can do anything.

I am going to make my dream possible.

I acknowledge my own worth.

I am proud, I am the first in everything.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I overcome any situation.

 I have greatness in me.

I have inner strength and ability to do all things.

Good things are happening to me.

I love myself and I forgive myself and others.

I am fulfilled and grateful.

I am good enough.

I am gifted.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Answers are always before me, even if I don't see them.

I have faith in myself.

I believe in my own ability.

I am confident.

I am competent.

I am committed to my daily task.

I feel confident planning daily.

I practice self-care with love.

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I am safe and all is well.

My line body and spirit is healing.

I am building a new wonderful world for myself.

I am talented discovering new talent all the time.

I give myself self care each day.

I am enough.

I am amazing.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I love and accept myself exactly the way I am now.

I love meeting people and approach them with boldness and enthusiasm.

I live the present, I am confident in the future.

I approve of myself.

I have great ideas.

I believe in my skills and abilities.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I can see the beauty in people and in the world.

I am able to control distracting thoughts.

I set goals to help me use practice time effectively.

I can focus my attention effectively during the day.

I set personal goals for my task for the day.

I manage my self-talk effectively during practice.

I am able to relax if I get too nervous during the day.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I can visualise my need exactly the way I want it to be.

I can maintain my concentration during a specific task that I set for myself.

I am quite good at managing the many responsibilities of my daily life.

My possibilities are endless.

I am fit, healthy and attractive.

I radiate love and happiness.

I am fit, healthy and attractive.

My possibilities are endless.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am confident and unaffected by negative attitudes around me.

My inner vision is always clear and focused.

I am worthy of love.

I love and approve of myself exactly the way I am.

I am safe.

I am at peace with myself.

I let go every anxiety.

I love myself.

I love everything about me.

I love my life.

I am perfect, whole, and complete.

I love and accept myself exactly the way I am now.

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I always take good care of myself.

I love and approve of myself.

I am loving, lovable, and loved.

I love everything about myself.

I love and approve of myself exactly the way I am.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am safe.

I am at peace with myself.

I let go every anxiety.

I love myself.

I love everything about me.

I love my life.

I am perfect, whole, and complete.

I love and accept myself exactly the way I am now.

I always take good care of myself.

I love and approve of myself.

I am loving, lovable, and loved.

I love everything about myself.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I accept myself the way I am and I love myself-acceptance.

I accept my past life.

I am independent and self-determined

I have positive relations with others and high quality relationships).

I have the ability to manage my life and blend with any situation.

I have a purpose in life and my life is meaningful.

I have a positive attitude towards myself and personal growth to new experiences.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am whole in my spirit, soul and body.

I take excellent care of myself.

All my thoughts are healthy thought.

Everyday, I thank the universe for my.

Cheerfulness is my natural day.

Each moment I am becoming happier and happier.

Breathe in love and breath out fear.

I am grateful for everything in my life.

Challenges are an opportunity for my growth.

Being calm is one of my priorities in my life.

I am a natural peaceful person.

I am in total control of myself.

Peaceful thought comes naturally to me.

I feel balanced in my life.

Love is who I am, I choose joy and peace.

I enjoy this moment.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am a good listener.

I am generous.

I am beautiful

I am powerful.

I am happy.

I am always doing the best I can do.

I am a loving being.

I am a joy to many generations.

I am a royal priesthood.

I am focused.

I think good of others.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am courageous

I can do anything I set my mind to.

I am possible.

I am so full of love

I have greatness within me.

I am great

I am a loving person.

I am worthy.

I am smart.

I am safe.

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Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am a fast learner.

I am worthy.

I am full of good ideas.

I am a good influence on other people.

I am here to guide you with positive experience

I am great I am a loving person

I am worthy; I am valuable and precious to my world.

I am full of good ideas.

I am very creative.

I am unique and valuable.

I am a positive thinker.

I am on positive things.

I can do anything I want.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am lovable.

I am the best.

I have a gift and talent.

I am a great person.

I have got something of value to offer the world.

I am so dependable.

I am enough.

I am interesting.

I am calm.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am confident

I am really good at community. I am amazing, so dependable.

I have got the talent and skill to change the world.

I am not my past; I am creating my own future.

I constantly live in expectation of good things happen to me.

I can praise myself and feel it and deserve it.

I see beauty, grace and goodness.

I love and approve of myself.

I follow my dream with passion and certainty.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Beautiful things are coming into my life.

I sleep peacefully and awake refreshed.

I am kind and attract kindness.

I have amazing strength within me.

My life has a positive impact on the world.

I attract positive healthy relationship.

I attract abundance.

I draw good things into my life.

Infinite source of joy is within me.

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Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am disciplined with whatever things I want to do.

I have the sustainable power of God in me.

I stand with the universe of possibility.

I am well.

I am strong.

I am a calm, disciplined and efficient person.

I can work well under pressure.

I can make a difference.

I can achieve difficult tasks.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I enjoy solving problems.

I enjoyed being calm when others around me are not.

I love that feeling of having achieved so much in a day.

I am self-reliant, creative and persistent in whatever I do.

Confidence is my second nature.

I always attract only the best of circumstances and the best positive people in my life.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am lovable.

I am a problem solver. I focus on solutions and always find the best solution.

I love change and easily adjust myself to new situations.

I love challenges. They bring out the best in me.

I am well groomed, healthy and full of confidence. My outer well-being is matched by my inner well-being.

Self-confidence is what I thrive on. Nothing is impossible and life is great.

I always see only the good in others. I attract only positive people.

I face difficult situations with courage and conviction. I always find a way out of such situations.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am lovable and amazing

I belief in myself.

I am bold and outgoing.

I am self-reliant, creative and persistent in whatever I do.

I live in the present and I am confident of the future.

When I breathe, I inhale confidence and exhale timidity.

I love meeting strangers and approach them with boldness and enthusiasm.

I am competent, smart and able.

I am self-reliance on myself.

I am growing and changing for the better.

I love the person I am becoming.

I acknowledge my own self-worth; my self confidence is rising.

I am worthy of all the good things that happen in my life.

I am confident with my life plan and the way things are going.

I deserve the love I am given.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I let go of the negative feelings about myself, and accept all that is good.

My possibilities are endless.

 I am fit, healthy and attractive.

I radiate love and happiness.

I am beautiful inside-out.

Wealth is pouring into my life.

I am a good giver of good things to my world.

I will remain confident and unaffected by negative attitudes around me.

I will remain confident and unaffected by negative attitudes around me.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I am confident.

My inner vision is always clear and focused.

I am worthy of love.

I am overcoming my obstacles.

 I am creative, resourceful and resilient

 I am emotionally resilient.

I am Strong, Disciplined, Persistent and Resilient. My Willpower is second to none. I can take much more than I think.

I have resilience and create an environment of fulfillment.

I am overcoming my obstacles.

I am creative, resourceful, and resilient.

I am emotionally resilient

I possess an endless supply of creativity , energy and tolerance for any project that i assume

Resilient personality is born of the highest resolve to be healthy.

I have resilience and creates an environment of fulfillment

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I love and approve of myself exactly the way I am.

I am safe.

I am at peace with myself.

I let go every anxiety.

I love myself.

I love everything about me.

I love my life.

I am perfect, whole, and complete.

I love and accept myself exactly the way I am now.

I always take good care of myself.

I love and approve of myself.

I am loving, lovable, and loved.

I love everything about myself.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I have full confidence in my abilities.

I believe in myself.

I always stay compose

I radiate confidence 5 times

I always stay compose no matter what, I always relax.

I bring out the best in people

I have a magnetic personality.

I am successful in all my undertaking.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I smile love out loud everyday; I am kind.

I smile at everyone I meet; I choose love: I love you.

I smile throughout my day; there is beauty all around me.

I spend time having fun.

I spread the seed of happiness wherever, I go.

I am good person, curious and passionate.

I wear a sincere and loving smile wherever I go.

Take a deep breath through your nose, breath in and breath out.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

I see beauty everywhere.

I am vibrant healthy and alive.

I send love out to the universe, the more love I send, the more it comes back to me.

My life is full of love

My life is full of joy and surprises.

Blessed is my life everyday.

I spread the seed of happiness wherever I go.

I am beautiful with my positive thought. I attract more positive experiences.

The more I send love to the universe, the more it come back to me.

My heart is full of love; take a deep breath.

I generate more happy thoughts and I am more fantastic.

There are limitless reasons to be cheerful about live.

I am infused with inner peace, vitality and joy.

My life is full of love.

I smile love.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

My spirit is as light as a feather.

The joy within me empowers my being.

Joy fills my heart.

Today, I choose to be completely happy.

Today, I give myself hundred reasons to smile.

My heart is full of joy and I have good psychological well-being.

Take a breath and breathe in the power of love and breathe out any limitation with you.

Breathe in life breathe out fear.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Exercises

Be in a state of gratitude for who you are.

Be able to picture what is it that you want and allow that to create your world.

Thoughts are extremely powerful: You create your thought your thought create intention, and your intention create reality.

Surrender to new consciousness. Our believes are the invisible ingredients.

You become what you think about.

This section is an exercise to build our self-image.

Reflect and write five things you are grateful for.

Stand in front of a standing mirror and say positive things to yourself for five minutes.

For example:

My mind is confidence; my body is confidence; I am confident

My mind is beautiful; my body is beautiful; I am beautiful

My mind is blessed; my body is blessed; I am blessed.

My mind is happy; my body is healthy; I am full of laughter.

My mind is creative; my body is healthy; I am a blessing to my world.

I have the secret of life within me: I have joy, inner peace.

I have the invisible ingredient within me: I have serenity, equanimity, goodwill and I am full of compassionate laughter.

The revitalising, rejuvenating power of infinite intelligent flows through me like golding river, vitalising, transforming every atom of my being, so that every atom of my being dances to the rhythm of the infinite intelligent.

WEEK SIX

GUIDED MEDITATION ON MENTAL TOUGHNESS AND PSYCHOLOGICAL WELL-BEING

It will be good for you to first desire it and belief that by the end of the program, you will achieve your goals on mental toughness, enhance psychological well-being.

Find a quiet place, allow yourself to get comfortable, relax yourself. Go ahead and close your eyes for you to go into your inner life.

Take a deep breath in ...1.... 2.... 3..... hold....1….2...3.... let the breath out....1....2...3.....

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Last time take a deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Imagine all of the following skills are true for you.

May I be filled balance in my life.

May I enjoy this moment.

May I be genius with unlimited mind.

May I imagine myself as having an excellent spirit.

May I be creative.

May I give an expression of divine intelligent.

May I breathe in the fullness of life

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Take a deep breath in ...1.... 2.... 3..... hold....1….2...3.... let the breath out....1....2...3.....

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Last time take a deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

May I be confidence**.**

May I be committed to my daily task.

May I see I challenges as an opportunity to grow and develop.

May I be have control over my life.

May I have control over my emotions.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Take a deep breath in ...1.... 2.... 3..... hold....1….2...3.... let the breath out....1....2...3.....

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Time take a deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

May I accept myself the way I am and accept my past life.

May I be independence with self-determination in my endeavour in life.

May I have a satisfactory life.

May I have a meaningful and a purposeful life.

May I have positive relations and high quality relationships.

May I have environmental mastery, and be able to manage my life.

May I have a positive attitude towards others and myself.

May I have personal growth and open to new experiences.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

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[Keep two digits: the 1st denotes future major
amendments the 2nd denotes minor amendments]

Time take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

I am confident about my well-being.

I am confident about my autonomy

I feel mentally relaxed.

I am confident because I mentally picture myself reaching my goal.

I am confidence of coming through under pressure.

I am confident about my daily task.

I am confident I can meet challenges.

I feel secure.

I feel self-confident.

I feel comfortable.

I feel at ease.

I remain cool and concentrate under pressure or situations.

I am realistic and optimistic in my daily task.

I am calm and focus.

I create positive emotional state in others.

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Imagine yourself as a confidence and committed person and acknowledging your best physical quality and the best personal quality you; identified a short time ago. – but this time SMILE –

I have great confidence… and I am a committed person.

Continue to smile; say to yourself and mentally say –

I have great confidence … and I am a committed person.

Repeat it, keep smiling –

I have great confidence and I am a committed person.

Say: as the days go by I will feel calm, relaxed and more and more in control of my life

I am self-reliant, creative and persistent in whatever I do.

My personality exudes confidence.

I am bold and outgoing.

I am energetic and enthusiastic.

Confidence is my second nature.

I always attract only the best of circumstances and the best positive people in my life.

I am lovable

I am a problem solver. I focus on solutions and always find the best solution.

I love change and easily adjust myself to new situations.

I love challenges. They bring out the best in me.

I am well groomed, healthy and full of confidence. My outer well being is matched by my inner well being.

Self confidence is what I thrive on. Nothing is impossible and life is great.

I always see only the good in others. I attract only positive people.

I face difficult situations with courage and conviction. I always find a way out of such situations.

I lovable and amazing.

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

I belief in myself.

My personality exudes confidence.

I am bold and outgoing.

I am self-reliant, creative and persistent in whatever I do.

I approve of myself and love myself deeply and completely.

I live in the present and I am confident of the future.

When I breathe, I inhale confidence and exhale timidity.

I love meeting strangers and approach them with boldness and enthusiasm.

I am competent, smart and able.

I am self reliance on myself.

I am growing and changing for the better.

I love the person I am becoming.

I acknowledge my own self-worth; my self confidence is rising.

I am worthy of all the good things that happen in my life.

I am confident with my life plan and the way things are going.

I deserve the love I am given.

I let go of the negative feelings about myself, and accept all that is good.

My possibilities are endless.

 I am fit, healthy and attractive.

I radiate love and happiness.

I am beautiful inside-out.

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Wealth is pouring into my life.

I am a good giver of good things to my world.

I will remain confident and unaffected by negative attitudes around me

Wealth is pouring into my life.

I radiate love and happiness.

I am fit, healthy and attractive.

My possibilities are endless.

I will remain confident and unaffected by negative attitudes around me

I am confident.

Pause for few minutes (start by taking 5 long deep breaths; slow breaths in and out).

My inner vision is always clear and focused.

I am worthy of love.

Today, I will concentrate on taking one step forward no matter small.

 I possess an endless supply of creativity, energy and tolerance for any project that I assume.

I am overcoming my obstacles

I am creative, resourceful and resilient

I am emotionally resilient

I possess an endless supply of creativity , energy and tolerance for any project that i assume.

Last time take a deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

I am Strong, disciplined, persistent and pesilient. My Willpower is second to none. I can take much more than I think.

Resilient personality is born of the highest resolve to be healthy.

I have resilience and creates an environment of fulfillment.

I am overcoming my obstacles

I am creative, resourceful, and resilient

I am emotionally resilient

I possess an endless supply of creativity , energy and tolerance for any project that i assume.

I am strong, disciplined, persistent and Resilient.

My Willpower is second to none. I can take much more than I think.

Resilient personality is born of the highest resolve to be healthy.

I have resilience and creates an environment of fulfillment.

Open eyes and accept that these statements are true.

Exercises

Be in a state of gratitude for who you are.

Be able to picture what is it that you want and allow that to create your world.

Thoughts are extremely powerful: You create your thought your thought create intention, and your intention create reality.

Surrender to new consciousness. Our believes are the invisible ingredients.

You become what you think about.

This section is an exercise to build our self-image.

Reflect and write five things you are grateful for.

Stand in front of a standing mirror and say positive things to yourself for five minutes.

For example:

My mind is confidence; my body is confidence; I am confident

My mind is beautiful; my body is beautiful; I am beautiful

My mind is blessed; my body is blessed; I am blessed.

My mind is happy; my body is healthy; I am full of laughter.

My mind is creative; my body is healthy; I am a blessing to my world.

I have the secret of life within me: I have joy, inner peace.

I have the invisible ingredient within me: I have serenity, equanimity, goodwill and I am full of compassionate laughter.

The revitalising, rejuvenating power of infinite intelligent flows through me like golding river, vitalising, transforming every atom of my being, so that every atom of my being dances to the rhythm of the infinite intelligent.

WEEK SEVEN

GUIDED VISUALISATION AND MENTAL IMAGERY

Welcome to the seventh week of guided meditation breathing exercise, gratitude and loving-kindness meditation program. This week is going to be mental imagery and visualisation.

Use all the five senses for visualisation and imagery.

Now relax deeper and let your creative self-sound through you.

See it, hear it, feel it.

What do you want to be?

What do you want to have?

What do you want to do?

Picture what you want and use your imagination. Create a mind movie of what you really want. Make a mental picture of where you want to see yourself in the future. Think about the quality of things you want to experience vividly. Close your eyes for you to go into your inner world. Let your subconscious mind take you there:

Practice mental movie in your mind and visualise the confident you: Image it in your mind and visualise it like a movie. Create a mind movie of what you really want. Make a mental picture of where you want to see yourself in the future: see yourself in your mind's eye and use the sensory input with intention. The sensory inputs are your five senses: sight, feeling, smell, hear, and taste.

Close your eyes. Sit comfortably with your feet flat on the floor and your back straight. Relax your whole body. Keep your eyes closed throughout the whole visualisation and imagery process; bring your awareness inward. Without straining, just relax and gently follow the instructions.

We'll start with a few minutes of concentration practice, just to help our minds settled and arrive in our present time experience. As you allow the body to resume to natural breathing, see where in the body you can feel the breath. It may be in the stomach or abdomen, where you can feel the rising and falling as the body breathes. It might be in the chest, where you may notice the expansion and contraction as the body inhales and exhales. Perhaps it's at the nostrils, where you can feel a slight tickle as the air comes in, and the subtle warmth as the body exhales.

(Allow for some silence here for as long as you see fit)

You may have noticed the mind wandering. When the mind wanders, it really offers us an opportunity to cultivate mindfulness and concentration. Each time we notice the mind wandering, we're strengthening our ability to recognize our experience. Each time we bring the mind back to the breath, we're strengthening our ability to focus on an object. Treat is as an opportunity rather than a problem, and return to the breath.

(Allow for some silence here for as long as you see fit)

You can begin the practice by bringing to mind yourself as you sit here right now. Try to connect with your own deepest intentions for happiness, ease, and safety. You don't need to dive into stories of what will make you happy, but connect with that natural desire you have.

Take a clear picture in your mind of a person that is mentally tough with good psychological well-being. Keep your inner focus on this picture. You will manifest what you think in your mind. Your focus in this study is to visualize yourself as having the four components of mental toughness (control, commitment, challenge and confidence) and good psychological well-

being. Visualize and see yourself as a new person full of these skills; this implies changing your self-image to be a successful person you aspire to be.

When I breathe, I inhale confidence and exhale timidity.

Think about the quality of things you want to experience vividly. Go ahead and close your eyes for you to go into your inner life. Let your subconscious mind take you there:

Imagine all of the following affirmations are true for you. As you say this affirmation; imagine it been completely merge with your mind; repeat them and feel it. Feel positive essence of he positive word as you repeat them. Be united with them and permit them to merge with your mind and become part of you.

Hold the image of your younger self; Imagine the been mentally tough and enhance psychological well-being.

Breath in….. hold… Breath out…

Imagine Loving-kindness is circulating in your life- see it, feel it and imagine it.

Imagine the infinite intelligence is within you.

Imagine and visualise yourself as overcoming obstacles.

Take a deep breath in ...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Take another deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

Last time take a deep breath in...1....2....3..... hold....1….2...3....let the breath out....1....2...3.....

As you begin to relax, and allow your unconscious or subconscious mind to open, Imagine that you shoot yourself forward in time to the date that your have achieved your goal Imagine you already there! that you already achieved your goal.

As you do, imagine dropping yourself into your body fully, completely, in that time in that space, having achieved your goal.

See yourself in the image as if you are watching a movie.

As you say this affirmation; imagine it been completely merge with your mind; repeat them and feel it. Feel positive essence of he positive word as you repeat them. Be united with them and permit them to merge with your mind and become part of you.

Breath in…3times...hold…2times…. Breath out…3times

Loving-kindness is circulating in my life- see it, feel it and imagine it.

Imagine all of the following skills are true for you.

I am a person with confidence and always committed to my daily task.

I am in control of my life and emotions and I can turn challenges to an opportunity for personal development.

I am independent, full of energy and always take charge of my environment.

My life is meaningful and purposeful.

I feel balance in my life.

Love is who I am, I choose joy and peace.

I enjoy this moment.

Take a breathe and breath in the power of love and breath out any limitation with you.

Breath in life breath out fear.

I am genius of the universe with unlimited mind.

I am confidence.

Imagine and visualise yourself has been confidence.

Breath in confidence…

I am genius of the universe with unlimited mind.

Imagine become calm and peaceful. Close your eyelid and breath in health, harmony and peace. Hold it and relax; imagine yourself having the following component:

I imagine myself as having an excellent spirit.

I am intelligent

I have divine intelligent in me, so I am creative.

I am the expression of divine intelligent.

I breathe in the fullness of life

I am confident

I am beautiful

I am bless.

I am full of laughter.

I am a blessing to my world.

Imagine yourself as a confidence and committed person and acknowledging your best physical quality and the best personal quality you; identified a short time ago. – but this time SMILE –

I have great confidence… and I am a committed person.

Continue to smile; say to yourself and mentally say –

I have great confidence … and I am a committed person.

Repeat it, keep smiling –

I have great confidence and I am a committed person.

Open eyes and accept that these statements are true.

Keep breathing smoothly and calmly. You can breathe like this any time, drawing in relaxation, releasing any tension that accumulates through the day.

You may now return to your usual activities, feeling calm and relaxed. Have a wonderful relaxing day. (Ring bell).

Exercises

Be in a state of gratitude for who you are.

Be able to picture what is it that you want and allow that to create your world.

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