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Programme Director: Vivian Hill

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The role of emotion mindsets in adolescent anxiety and well-being

Wendy Lee

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I, Wendy Lee confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

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Signed:

Wendy Lee

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Abstract

An important part of the Educational Psychologist role involves the design and implementation of universal and targeted interventions to increase the use of evidence-based strategies for improving anxiety and psychological well-being outcomes in educational settings. Literature suggests that a key to motivation for engaging with healthy strategy use is the beliefs that individuals hold about the controllability of emotions. However, no research has yet examined beliefs which are specific to the malleability of anxiety in adolescents under the age of 18 years.

Method: Self-report data was collected from 332 participants aged 16 – 18 attending post-16 educational settings in an inner city of England using validated questionnaires. Qualitative data was subsequently collected from a subset of the participants using semi-structured interviews in a follow-up study.

Results: Anxiety malleability beliefs were a stronger predictor of anxiety and well-being than emotion controllability beliefs. Anxiety malleability beliefs were positively correlated with the reappraisal emotion regulation strategy and negatively correlated with the suppression strategy. Reappraisal did not mediate the association between the two beliefs and anxiety symptoms but did mediate the association between the two beliefs and psychological well-being. Adolescent anxiety malleability beliefs appeared to vary across features and contexts which were specific to anxiety.

Discussion: implications on EP practice in the design and implementation of interventions include: addressing anxiety malleability beliefs before strategy use, targeting psychological well-being alongside anxiety outcomes, and evaluating individual differences in the relationship between anxiety beliefs and a wider range and combination of strategy use.

Impact Statement

Research and theory: The present study has contributed to knowledge in psychology research and theory, specifically in the areas of emotion mindsets and emotion regulation strategies, within the wider context of adolescent mental health and psychological well-being. It is the first to examine the role of anxiety malleability beliefs in adolescents under the age of 18 years and found it to be a stronger predictor of anxiety and well-being outcomes than emotion controllability beliefs. It has informed theory and supported findings in previous research with the adult population, and demonstrated for the first time in a study with pre 18-year-olds that individuals with higher anxiety malleability beliefs are more likely to use healthier strategies targeting emotional experience and less likely to use suppression strategies targeting emotional expression.

The study has contributed to the understanding of anxiety malleability beliefs as a psychological construct and how it may vary across features and contexts of anxiety in adolescents. It has also extended knowledge on the range, type and combination of strategies used by adolescents as well as how they might combine with other anxiety components and contextual factors to influence anxiety beliefs.

Professional practice in educational and community settings: The knowledge and understanding gained in the present study has practical implications for the design and implementation of interventions in the professional practice of psychologists working in educational and community settings. Particularly, it signifies the importance of addressing anxiety malleability beliefs before focusing on strategy use. It indicates that targeting

psychological well-being alongside anxiety outcomes may be conducive for enhancing the use of cognitive reappraisal strategies. It also highlights the pertinence of evaluating the interactions between components of anxiety and a wider range of strategy use in relation to anxiety malleability beliefs.

Local communities: Findings of the study were disseminated to the educational settings which had participated in the study to provide psychoeducation about the importance of addressing anxiety beliefs together with targeting strategy use to improve anxiety and well-being outcomes. It has also demonstrated to the communities the relevance of psychology research for informing issues and addressing concerns in public health.

Glossary of Terms

Anxiety malleability beliefs/anxiety beliefs: the extent to which a person believes they can change their anxiety. A person with high anxiety malleability beliefs/anxiety beliefs tends to strongly believe that they can change their anxiety.

Emotion controllability beliefs/emotion beliefs: the extent to which a person believes they can control and/or change their emotions. A person with high emotion controllability beliefs/emotion beliefs tends to strongly believe that they can control or change their emotions.

Emotion mindsets: refers to both emotion controllability and anxiety malleability beliefs

Cognitive reappraisal/reappraisal: a change of thinking to modulate the emotional impact of a situation such as positively reframing of an emotional experience

Expressive suppression/suppression: a change of behaviour to modulate the emotional response to a situation through the suppression of emotional expressions

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Chapter 1: Introduction

In England, adolescent anxiety has been a growing concern over the last 10 years (ONS, 2020), which was exacerbated by the school closures and restrictions imposed by the Covid-19 pandemic (Creswell et al., 2021). Currently, the Children and Young People's Mental Health Service (CYPMHS) is receiving their highest level of referrals (National Health Service [NHS] England, 2022). Older adolescents and girls reported higher anxiety and lower well-being (Department for Education [DfE], 2021), which evidence suggests may be related to satisfaction with school and schoolwork, friendship, and for girls, issues of self-image (The Children's Society, 2021).

Recognition of the need to address mental health and well-being in schools has led to the roll out of the Mental Health Support Teams (MHST) across England (NHS England, 2022). By the end of 2019/2020, 183 MHSTs were operational covering 3,000 schools and colleges and a further 104 teams were commissioned in 2020/21. Educational Psychologists (EPs) have been at the forefront of setting up the MHSTs and delivering their programme of services, which include the assessment of social, emotional, and mental health (SEMH) needs at an individual level. Another essential aspect of the EP role involves the recommendation, design, and implementation of universal and targeted interventions, which are evidence based, to systematically address mental health and well-being in schools.

A recent systematic review carried out by Public Health England (2019) has offered some evidence for the efficacy of interventions to address adolescent anxiety and well-being. Lesser known are the mechanisms which

determine the success of such interventions, but the report suggests that the motivation to engage in the practices and strategies endorsed by these interventions may be an important factor. If this is the case, what motivates young people in secondary education to participate in practices and interventions which enable them to have better mental health and well-being outcomes?

A growing base of evidence (De Castella et al., 2015; Ford et al., 2018; Ford & Gross, 2019; Gutentag et al., 2017; Kneeland et al., 2016; Tamir et al., 2007; Veilleux et al., 2015), primarily gathered through studies in the US, points to the role of emotion mindsets as a key to motivation. Emotion mindsets refer to individuals' beliefs about the extent to which they can control or change their overall emotions (emotion controllability beliefs), as well as the extent to which they can change specific emotion, such as anxiety (anxiety malleability beliefs). Findings from previous studies have shown that individuals would be more motivated to persevere in the use of healthier strategies to overcome anxiety, if fundamentally, they believe that they can change their anxiety (Schroder, 2021).

Furthermore, research with adolescents suggests that young people with higher beliefs that they can change or control their emotions are more likely to report lower anxiety symptoms (De France & Hollenstein, 2021). In addition, there is evidence (Smith et al., 2018) to show that higher emotion controllability beliefs can lead to higher emotional well-being. No known studies so far have examined the relationship between beliefs which are specific to the malleability of anxiety in adolescence and psychological well-being that are pertinent to day-to-day functioning in educational settings.

The present study considered the role of emotion mindsets in the anxiety and well-being outcomes of 16- to 18-year-olds who were attending mainstream post-16 educational settings in an inner city of England. The purpose of this study was two-fold: 1.) to extend the literature in this field of research by taking into consideration the role of anxiety malleability beliefs in adolescence, and 2.) to inform professional EP practice in promoting mental health and well-being in post-16 educational settings.

1.1 Children and adolescent mental health in England

In 2017, according to the *Mental Health of Children and Young People in England* Survey (NHS Digital, 2018), one in nine 5- to 16-year-old children and young people had some form of clinically diagnosable mental health disorder. Furthermore, 95% of the participants of the Young Mind Teachers' Survey (2018) reported to have taught a child they believed to be experiencing some form of anxiety in the previous year. Prior to the Coronavirus (COVID-19) pandemic, longitudinal data collected as part of the Annual Population Survey (APS) carried out by the Office for National Statistics (ONS, 2020b) showed an increasing trend - from 17.2% in 2011/2012 to 21.1% of 16- to 19-year-olds reporting high levels of anxiety in 2019-2020.

The impact of the COVID-19 pandemic on young people's mental health has been a focus since England went into its first national lockdown on 23 March 2020 and the first wave of the COVID-19 pandemic peaked in April 2020. The 2020 follow-up (NHS Digital, 2020) to the *Mental Health of Children and Young People in England* Survey 2017 (NHS Digital, 2018) suggested that one in six children aged 5 – 16 had been affected by mental disorders. Across the

population, the APS recorded the highest average rating of anxiety from April – June 2020, when schools were closed for most and high levels of restriction were in place. The average anxiety rating for 16- to 19-year-olds was even higher than the general population in the same period. Anxiety saw an increase of 35% between June – September 2020 (ONS, 2020a), which coincided with the period when many young people within this age group were experiencing uncertainties around GCSE and A-level grades. Data available from the Parent and Pupil Panel (PPP) omnibus surveys commissioned by the DfE (2021), which collected five waves of response from secondary pupils between August 2020 and July 2021, also showed that anxiety was higher amongst older pupils (in years 11–13 compared to years 7-10) and girls (compared to boys).

The above data suggests that for young people aged 16 – 19, anxiety has increased as a trend since 2011. This was exacerbated during the COVID-19 pandemic in response to the threats and uncertainties in the environment. It is perhaps worth noting that within the same period (June – September 2020), which saw the significant increase in anxiety levels, life satisfaction was also self-reported by young people aged 16 - 19 to have increased by 10.2%. This increase of life satisfaction coincided with the ease of restrictions imposed by the first national lockdown. It also suggests the importance of considering both the negative dimension of anxiety and positive indicators of well-being when examining the predictive role of emotion mindsets in older adolescents.

In addition, according to the *Good Childhood Report* published by the Children's Society (2021), which included findings from annual surveys of children and young people's well-being since 2012, there has been a trend of significant gender differences in well-being with girls being more likely to report

lower life satisfaction. Furthermore, young people's subjective well-being in school and schoolwork declines with age. This means that girls and older adolescents are at higher risk of lower well-being. Therefore, considering gender differences in the emotion mindsets of young people in post-16 educational settings can be useful for informing the evidence-based practice of the professional EP role.

1.2 Anxiety in post-16 educational settings

Since 2014, it has been compulsory for 16-year-olds to stay in education or training until the age of 18 following the introduction of the Raising the Participation Age policy under the coalition government in England (DfE, 2012). Young people aged 16 have the choice of continuing onto full-time education in state-funded or independent schools, sixth form colleges or Further Education (FE) colleges, which offer a variety of qualifications including A-levels, Applied General, Tech Level and Technical Certificates. According to data available in the public domain in July 2021 (DfE, 2021), of all the students who entered for the above four post - 16 qualifications in 2019 - 2020, 63% and 12% attended state-funded and independent schools respectively. In addition, approximately 16% and 11% attended sixth form colleges and FE colleges respectively. This means that over 70% of 16- to 18-year-old attending post-16 educational settings are in state-funded or independent schools.

In schools, anxiety is a particularly important aspect of mental health both from the perspectives of its consideration as a mental illness as well as its association with different issues relating to student learning, behaviour, and attainment. As a mental illness, anxiety disorders can be identified by and

distinguished through classifications in the Diagnostic Statistical Manual 5 (DSM-5) (American Psychiatric Association, 2013), which includes: specific phobia, selective mutism, separation anxiety disorder, generalised anxiety disorder, social anxiety disorder, panic disorder and agoraphobia. Body dysmorphic disorder, an anxiety disorder relating to body image, is also gaining recognition in schools.

As EP practice is primarily situated within educational rather than clinical settings, the focus of the EP role is mainly on providing support in the management of anxiety which affects the day-to-day functioning of pupils in school. Anxiety permeates different aspects of school, including learning (Carey et al., 2017; Chinn, 2009; Devine et al., 2018; Hill et al., 2016; Mann & Walshaw, 2019; Wang et al., 2020), behaviour (Barrett, 2017; Salmon et al., 1998; Stapinski et al., 2015), and attainment (Putwain, 2007; Putwain & von der Embse, 2021). More recently, following the two extended school closures due to the Covid-19 pandemic, school non-attendance relating to anxiety has been highlighted as an issue (Corcoran et al., 2022; Rae, 2020).

In the view of the author, the consideration of anxiety as a mental disorder takes a within-child stance for the issue to be clinically 'treated', whilst anxiety as an emotional response to environmental stimuli is a psychological phenomenon that can be addressed individually and systematically. An essential part of the EP role involves working systemically with schools and families to consider the reasonable adjustments which can be made to the learning environment so that the mental health and well-being of children and young people can be optimised. Another aspect of the EP work is to support children and young people in the development of cognitive processes that can

modulate their internal responses to external stimuli. Whilst EPs may not be able to dial down the impact of the COVID-19 pandemic on life and educational experiences, they can provide support in developing the use of evidence-based strategies and practices for children and young people to regulate their emotional responses.

In this way, anxiety is not an issue to be prevented or remediated, but a normal emotional response that is part of the everyday life which can be regulated to enable more positive mental health outcomes for children and young people. When anxiety is regulated well, the day-to-day functioning of pupil relating to their learning, attainment and behaviour in school may also be positively impacted.

1.3 The EP role in supporting mental health and well-being in schools

In England, EPs perform the statutory role of carrying out education, health and care needs assessments of individual children and young people aged 0-25 in accordance with the Children and Families Act (2014). The assessment includes identification of the social, emotional, and mental health needs of children and young people, as well as recommendations on evidence-based provision and interventions to support their needs. Due to the nature of this statutory role, EPs have primarily been associated with addressing the needs of children and young people with mental ill health and the significant barriers presented by emotional needs to learning and education, rather than the prevention of mental ill health and the promotion of well-being in schools.

The remit of the EP role in providing early intervention for targeted individuals and systemically in schools has broadened following the publication

of *Government Response to the Consultation on Transforming Children and Young People's Mental Health Provision: A Green Paper and Next Steps* (Department of Health and Social Care [DHSC] & DfE, 2018). This publication outlines the government's commitment to setting up Mental Health Support Teams (MHSTs), which act as links between local CYPMH services and educational settings. The aim is that by 2023, 399 MHSTs will be up and running across England offering support to almost three million pupils (NHS England, 2022). Many EP services have been involved with the setting up of MHSTs and the delivery of its programme of services.

An important part of delivering interventions to address rising levels of anxiety and declines in well-being involves identifying those which are evidence based. The systematic review of interventions carried out by Public Health England (2019) suggests good evidence for specific intervention programmes demonstrated to prevent anxiety and promote well-being for adolescents. There has been research on the efficacy of interventions using approaches based on Cognitive Behavioural Therapy (CBT) in EP practice (Weeks et al., 2017). One main finding of the study was that motivation to change and engagement in the process was pertinent for the success of school-based CBT interventions. A recent systemic review (Cilar et al., 2020) has identified interventions based on positive psychology and mindfulness to be effective for adolescent mental health and well-being in schools. Similarly, the systematic review published by Public Health England (2019) suggests that the key to success in mindfulness-based intervention is the motivation of adolescents to engage and persist in the effort of its practice.

If motivation is a key, it seems that a better understanding of what motivates adolescents to engage in intervention practice and persevere with the use of effective strategies learnt could be crucial for informing EP practice in the design and implementation of evidence-based interventions to address anxiety and well-being in schools.

The next chapter will consider theories relating to concepts of anxiety and well-being, as well as the constructs of emotion controllability and anxiety malleability beliefs. It will review current theories and existing studies on the relationship between emotion mindsets and regulation strategy use, and their implications on anxiety and well-being outcomes. Review of literature will inform gaps of knowledge and understanding, particularly in regard to adolescents under the age of 18, upon which the research questions of the present study were determined.

Chapter 2: Literature Review

The prevalence of anxiety in children and young people in England is a prominent issue (ONS, 2020), particularly as the long-term implications of the COVID-19 pandemic on health and well-being are yet to unfold. However, as illustrated in the previous chapter through data collected from the period immediately after the first national lockdown (ONS, 2021), the experience of high levels of anxiety does not preclude high satisfaction with life and overall well-being.

Patalay and Fitzsimons' study (2016) suggests that the correlation between mental ill health and well-being is weak, using data collected from parents of 11-year-old children in the Millennium Cohort Study (Tarek, 2014). Their subsequent study (Patalay & Fitzsimons, 2018) suggests a moderate correlation between mental ill health and well-being when the cohort of young people were asked to self-report on mental health symptoms and different aspects of well-being at the age of 14. It is important to consider mental ill health and well-being as two correlated but separate constructs. Data on anxiety tells us about the anxiety symptoms reported by young people, which focus on the negative. Well-being data is more than just the absence of anxiety – it is a positive indicator of life satisfaction and how well young people are functioning (Thapar et al., 2021). Anxiety symptoms can affect how satisfied young people are with their life and how well they are functioning. Similarly young people with higher well-being may experience anxiety to a lesser degree. Nonetheless, previous research has shown that people with high levels of anxiety can also be satisfied with life (Headey et al., 1993).

St Clair and colleagues' study (2017) with 2,257 participants aged between 14 and 25 provides an illustration of the complexity and multi-dimensional structure of mental health in adolescence when a range of measures was used to capture both the negative dimensions of mental ill health and positive dimensions of well-being. They found that the inclusion of positive well-being items, alongside negative measures such as anxiety and depression symptoms, has enabled more precision in the measurement of the general mental health factors which underpin anxiety and depression. This means that the effect of anxiety symptoms on the overall mental health of young people can only be appropriately evaluated when the positive dimension of their mental health (i.e., well-being) is taken into consideration.

2.1 Anxiety

According to Barlow (2002), anxiety is a normative emotional response involving subjective experience of affect, as well as cognitive, behavioural, and physiological components. It encompasses cognitive components such as worry, which prepares individuals to anticipate future danger, and fear, the psychophysiological response system involving behavioural and physiological components that prepares individuals to fight or flight (Lang, 1977). In addition to its primary function of preparing individuals for action, the expression of anxiety and communication of its affect is essential for human functioning and survival (Barlow, 2002).

Weems and Stickle (2005) postulate four domains that are implicated in the underlying causal mechanism of normative anxiety response, which include biological, cognitive, behaviour and social processes. Within this framework,

social processes describe the interactions between the 'internal' mechanisms of individuals and their immediate environmental context of family, school, and community, which has a significant role in shaping individual 'internal' responses to external stimuli and the psychopathology of anxiety.

Biological processes involve the influence of genetics (Eley, 2001), temperament (biological predisposition to respond to novel situations or stimuli) (Kagan et al., 1989) and neurobiological functioning (Davidson, 1998) over the experience of anxiety. Behavioural processes comprise learnt experience of anxiety through aversive conditioning (pairing of events or situations), vicarious acquisition (observing others) and verbal transmission of information (Rachman, 1977). A further behavioural learning pathway is operant conditioning (Ollendick et al., 2001), the notion that when children learn to cope with normative anxiety through avoidance of anxiety provoking stimuli, anxiety responses can be maintained at high levels and become problematic. Whilst the nature of operant conditioning may be behavioural in that the emotional response is learnt, the process of avoidance implicates cognitive mechanisms of emotion regulation, such as attentional deployment from the source of anxiety.

Cognitive processes encompass judgement, interpretative and memory biases as well as attentional selectivity which affect the information processing of anxiety (Weems & Stickle, 2005). Judgement bias refers to the lowered expectations of an individual over their ability to manage an anxiety provoking situation or choose coping strategies. Integral to judgement bias is the proposition that it is the perceived lack of control to external threats, and or perhaps more pertinent to the interest of this study, the perceived lack of control over emotional responses which is central to the experience of anxiety

problems (Barlow, 2002). However, perceived lack of control over emotional responses relates to anxiety as a transient state. Though related, it is to be distinguished from the underlying emotion mindsets about anxiety as a trait (Schroder, 2021), which is the focal point of this study and will be defined later.

When anxiety is conceptualised as a normative emotional response, anxiety disorders are then the phenomena that occur when the qualitative and quantitative experience of anxiety deviates from normality. Thus, prevention of anxiety as a problem is to be addressed by examining the underlying 'internal' and environmental processes and their interactions, rather than the symptoms of their disorder (Weems & Stickle, 2005).

2.2 Psychological well-being

The most prominent component that anxiety and well-being shares, perhaps, is the subjective experience of affect, albeit in the opposite directions. Diener's earlier conceptualisation of subjective well-being (1984) includes an affective component (the strength and intensity of a person's affective responses) and a cognitive component (how satisfied a person is with their life as a whole). With a focus on life satisfaction and emotional well-being, this definition of subjective well-being aligns with the hedonic pursuit of pleasure and positive emotions. Inherently, subjective well-being is different from the objective conditions for well-being, such as health, comfort and wealth, in that a person who has been given a diagnosis of mental ill health can experience subjective well-being when their illness is not making them feel or function too poorly (Stewart-Brown, 2013).

Diener's more recent tripartite model (2009) of subjective well-being includes an additional psychological component. This psychological component of well-being resonates with Aristotle's notion of eudaimonia – the leading of a good virtuous life – as its measure includes items such as "I lead a purposeful and meaningful life", "I am a good person and lead a good life", and "I actively contribute to the happiness and well-being of others". In addition, it consists of items which measure all the important aspects of young people's functioning in school, which include interest and engagement ("I am engaged and interested in my daily activities"), positive relationships ("my social relationships are supportive and rewarding") and sense of competence ("I am competent and capable in the activities that are important to me"). These are some of the key areas that EPs provide support for individually and systematically in school, as they directly impact the learning and attainment of young people.

Another well-established framework of subjective well-being is Seligman's PERMA (Positive Emotion, Engagement, Relationships, Meaning and Accomplishment) model (2011). This PERMA model postulates that the building blocks which will enable individuals to flourish are: 1.) increase of positive emotion, 2.) pursuit of intrinsic interest in engaging activities, 3.) support from and connection with others in social relationships, 4.) leading of a meaningful life, and 5.) sense of accomplishment. In this way, the PERMA model encompasses both eudaimonic and hedonic conceptions of well-being.

Results from a study (Goodman et al., 2018) comparing Diener's subjective well-being (Diener, 2009) and Seligman's PERMA (2011) suggested a latent correlation of $r = .98$ between the two, which was endorsed by Seligman (2018). The measures used by Goodman and colleagues (2018) to

provide a comparison of the two models were the PERMA-profiler (Butler & Kern, 2016) and a subjective well-being measure. The PERMA-profiler consists of five subscales, each with three items to measure positive emotions, engagement, relationships, meaning and accomplishment. It is worth noting that their subjective well-being measure consists of the Satisfaction with Life Scale (Diener et al., 1985) together with one item for positive affect and one item for negative affect. Thus, the subjective well-being measure used in the study (Goodman et al., 2018) was of Diener's earlier model (1984), which did not include the psychological well-being component in Diener's extended tripartite model (2009). More importantly, it is curious that Goodman and colleagues' study (2018) found such a high correlation between the PERMA-profiler and a measure of Diener's earlier model of subjective well-being (1984), which did not consist of the psychological well-being component.

Both PERMA (2011) and Diener's tripartite model (2009) of subjective well-being encapsulate eudaimonic and hedonic notions of well-being. The latter consists of a distinct strand of psychological well-being, which describes all the important aspects of young people's functioning in school that affect their learning and attainment. It is a crucial component of subjective well-being which is particularly relevant to the role of EPs in schools.

2.3 Emotion controllability beliefs

2.3.1 Implicit theories of emotion

Research into emotion mindsets stem from the socio-cognitive model of implicit theories developed by Dweck and Leggett (1988), which are referred to as implicit because they are not usually consciously held or explicitly stated

(Kneeland et al., 2016). The theories posit that individual beliefs over whether specific domains such as intelligence and moral character are fixed or malleable can predict motivation, behaviour, and self-concept in these domains. The mindset that intellectual abilities are not fixed but can grow through persistence and effort has been found to be conducive to primary children's learning motivation (Savvides & Bond, 2021) and secondary pupils' academic outcomes (Yeager et al., 2019). Applied to the domain of emotion (Molden & Dweck, 2006), the beliefs that adolescents hold about the extent to which they can control or change their emotions are shown to be influential over the likelihood and persistence of using healthier strategies to regulate emotion (Ford et al., 2018; Romero et al., 2014).

The implicit theories of emotion implicate a spectrum of beliefs. At the one end, individuals with entity theories view emotion as an entity which comes and goes of its own accord, whilst those with incremental theories consider emotion to be controllable or malleable (Tamir et al., 2007). The entity vs incremental theories are also referred to as fixed vs growth mindsets of emotion (Schroder et al., 2018) in that the ability to control emotion maybe considered as 'fixed' and innate, thus attempts to change this ability would be futile, as opposed to the mindset that people can develop their ability to control emotion. To fully illustrate implicit theories of emotion as a continuum of beliefs, rather than merely the polarised perspectives, researchers in this field have introduced phraseologies such as emotion malleability beliefs (Kneeland et al., 2016) or emotion controllability beliefs (Ford & Gross, 2019).

The change in the terms of reference in literature - from 'entity' to 'mindset' and 'controllability/ malleability' - also reflects a conceptual shift from

considering emotion as ‘an entity’ in general to emotion beliefs which are integral to self. The former is measured using items such as ‘if they want to, people can change the emotions that they have’ (Tamir et al., 2007), and the latter ‘if I want to, I can change the emotions that I have’ (De Castella et al., 2013). This conceptual change seems to be influenced by the evidence that people’s beliefs about their ability to control or change their own emotions are a stronger predictor of mental health and well-being outcomes than their beliefs about emotions in general (De Castella et al., 2013).

2.3.2 Subordinate features of emotion controllability beliefs

Although implicit theories of emotion refer to the overall beliefs that individuals hold about the malleability or controllability of their emotions, Ford and Gross (2018) postulated that overall emotion beliefs may vary across subordinate features of the beliefs. These subordinate features include “specific emotions (e.g., anger, happiness), specific emotion channels (e.g., subjective feelings or behavioural response), specific contexts (e.g., specific settings or given specific resources), and specific targets (e.g., myself, known others or generic others)” (Ford & Gross, 2018, p.2). For example, individuals may believe that their own emotions are more controllable than those of other people in general as discussed above. Adolescents may believe that their emotions are more controllable at home than at school.

2.3.3 Theories of emotion controllability beliefs and emotion regulation

Ford and Gross (2019) also connected implicit theories of emotion (Dweck & Leggett, 1988) with the process model of emotion regulation (Gross, 2015). They proposed that beliefs about whether emotions are controllable or not controllable are implicated in the four stages of the emotion regulation process: identification, selection, implementation, and monitoring. Individuals who believe emotions are uncontrollable may: 1.) be less likely to identify the need to regulate their emotions, 2.) consider fewer strategies and be less likely to select an effective strategy, 3.) have less experience of and be less effective at implementing emotion regulation strategies, and 4.) lack the ability to persevere with the regulation process and effectively monitor the progress and outcomes of strategy use.

2.3.4 Definition of emotion controllability beliefs

In the present study, the term 'emotion controllability beliefs' has been decided upon to represent the spectrum of overall emotion beliefs in adolescents instead of 'emotion malleability beliefs' as the former places more emphasis on individual's control over their own emotions. This emphasis resonates with the concept of internal locus of control (Rotter, 1966) - individuals with high internal locus of control believe they have control over their environment and that they can determine what happens in their life. Internal locus of control maps onto self-efficacy – beliefs about one's ability for personal development and change, the cultivation of which is core to the sense of agency (Bandura, 2006) that EP practice strives to engender in children and young people. The term 'emotion controllability beliefs' is therefore more in line

with the ethos of EP practice in enabling children and young people to be their own agents of change than 'emotion malleability beliefs'. However, it was felt that mindsets about anxiety should be captured in a slightly different manner for reasons which the next section will elaborate on.

2.4 Anxiety malleability beliefs

2.4.1 Domain specificity of anxiety malleability beliefs

Although anxiety can be considered as a normative emotion (Barlow, 2002), it is a specific emotion which may be associated with a different set of beliefs from emotion as an overall entity theoretically (Ford & Gross, 2019) and empirically (Schroder, 2021). Ford and Gross (2019) postulate that emotion beliefs may vary across subordinate features of emotion. For example, people may find it more difficult to change a specific emotion over another, such as anxiety relative to anger. Empirical studies (Reffi et al., 2020; Schroder et al., 2016, 2018) have also provided evidence for the domain specificity of anxiety beliefs, which has been shown to be more predictive of anxiety outcomes than overall emotion beliefs.

Schroder and colleague's study (2018) with a clinical sample has shown that baseline anxiety beliefs, but not overall emotion beliefs, predicted fewer anxiety symptoms at discharge. The researchers suggest that this may be due to participants within the clinical population equating anxiety with psychological distress, rather than considering anxiety as an emotion. Moreover, their study found that changes in anxiety beliefs were associated with changes in anxiety symptoms, as participants with higher beliefs that they can change their anxiety after treatment tended to also have greater improvement in anxiety symptoms

after treatment. Changes in emotion beliefs, on the other hand, were not associated with changes in anxiety symptoms.

2.4.2 Definition of anxiety malleability beliefs

Interestingly, the scale for measuring implicit theories of anxiety (TOA) (Schroder et al., 2015) is based on one for assessing implicit theories of intelligence (TOI) developed earlier by Dweck (Hong et al., 1999). Both scales consist solely of items which assess an individual's beliefs about the extent to which people can 'change' their traits. In comparison, the scale for measuring implicit theories of emotion (TOE) developed later by Tamir and colleagues (2007) includes items which measure 'control' as well as 'change'. As the TOE and TOA scales measure implicit theories of emotion and anxiety in a different way, there appears to be grounds for distinguishing the reference to the two constructs in this study.

Furthermore, from a clinical viewpoint, it seems that overactive attempts to 'control' the emotional response to anxiety may not be healthy as it may be associated with a tendency to fear losing control over one's anxiety (Kneeland et al., 2016; Roemer et al., 2005). The clinical viewpoint is important as it informs the language which would be appropriate for EPs to use in practice when working with young people who are anxious – the language of change rather than control. Therefore, it seems prudent to distinguish between emotion controllability and anxiety malleability beliefs in this study.

2.4.3 Distinguishing features of anxiety malleability beliefs

To summarise, it is important to measure emotion controllability and anxiety malleability beliefs separately as the latter regards beliefs that are specific to anxiety and therefore a stronger predictor of anxiety symptoms than beliefs about the controllability of overall emotion. Moreover, increase in anxiety malleability beliefs was found to be associated with improvement in anxiety symptoms whereas changes in emotion controllability beliefs were not associated with changes in anxiety symptoms. The present study distinguished between the use of the term 'controllability' for overall emotion beliefs and 'malleability' for specific anxiety beliefs to reflect the difference between the measures used for these two constructs, as well as the clinical viewpoint that overactive attempts to 'control' anxiety may not be healthy.

2.5 Anxiety malleability beliefs and mental health

Earlier research on anxiety in adolescents, such as those undertaken by Weems and colleagues (2003), has considered the relationship between anxiety symptoms, and perceived control over internal anxiety responses and external anxiety related events. Perceived control over internal anxiety responses was measured in their study using items such as "If I begin to shake or tremble, I can stop myself" or "I am able to change how much nervousness or fear I feel". Perceived control over external anxiety related events were measured with items such as "When I am in a place that gets me nervous or afraid, I can take charge over and control my feelings."

Perceived control over anxiety is to be distinguished from anxiety malleability beliefs in that the former considers the perception of control over

internal and external aspects of anxiety, whilst the latter is concerned with core beliefs relating to anxiety as an overall construct. The study (Weems et al., 2003) found that lower perceived control was associated with self-report of higher anxiety symptoms. As the study was a cross-sectional design, causality was not established between perceived control and anxiety symptoms. In addition, the finding was based on a correlational analysis; thus, the directionality between perceived control and anxiety symptoms could not be assumed.

Various findings from more recent research, primarily with university students and clinical populations, have provided evidence for the distinctive role of anxiety malleability beliefs in mental health, which the following sub-sections will discuss in detail.

2.5.1 Unique role of predicting anxiety symptoms

Anxiety malleability beliefs have consistently shown to have a stronger relationship with anxiety outcomes than emotion controllability beliefs in studies with university students (Schroder et al., 2015, 2016). It is also a stronger predictor of anxiety symptoms in university students (Schroder et al., 2015) and mental health patients (De Castella et al., 2015; Reffi et al., 2020; Schroder et al., 2018).

Schroder and colleagues' study with university students (2016) involved latent variable analyses of data collected on seven potential domains of mindset: anxiety, intelligence, emotion, personality, depression, social anxiety and drinking tendencies. They found the seven domains to be distinguishable from each other but there was an underlying 'global' mindset which cut across

the specific domains. Findings from correlation analyses suggested that anxiety beliefs had a stronger relationship with problematic worry and somatic anxiety - the cognitive and physiological dimensions of anxiety symptoms - than emotion beliefs. This finding was congruent with results from their earlier study (Schroder et al., 2015) involving two separate samples of university students. Moreover, regression analyses used in the earlier study (Schroder et al., 2015) also showed anxiety beliefs to be a stronger predictor of a range of anxiety symptoms including worry, somatic anxiety, social phobia, as well as trait-anxiety, than emotion beliefs.

Three longitudinal studies in clinical settings (De Castella et al., 2015; Reffi et al., 2020; Schroder et al., 2018) provided further evidence for the predictive role of anxiety malleability beliefs in mental health outcomes. All three studies used within-subjects design and assessed the difference between emotion mindsets and psychological symptoms at two time points: pre- (T1) and post-treatment (T2). Schroder and colleagues' study (2018) measured anxiety symptoms as an outcome whilst Reffi and colleagues' study (2020) combined anxiety and depression symptoms as one outcome variable. De Castella and colleagues' study (2015) measured mindset and anxiety symptoms which were specific to social anxiety. Two of the studies involved a community-based programme of treatment over an average of 135.12 days (Reffi et al., 2020) and 16 weekly sessions (De Castella et al., 2015). One of the studies involved a hospital treatment over an average of 12.7 days (Schroder et al., 2018).

Reffi and colleagues' study (2020) found that neither emotion nor anxiety beliefs significantly mediated the relationship between psychological symptoms pre- and post-treatment after controlling for pre-treatment emotion mindsets and

attended treatment sessions. Although their mediational analyses found that T2 anxiety mindset predicted T2 psychological symptoms, indirect effects of T1 psychological symptoms on T2 psychological symptoms through emotion and anxiety beliefs were not significant. In contrast, De Castella and colleagues' study (2015) found that post-treatment implicit beliefs of social anxiety explained the treatment-related changes in social anxiety symptoms. It seems that anxiety malleability beliefs may more likely explain treatment-related changes which are specific to anxiety symptoms (De Castella et al., 2015) than combined anxiety and depression symptoms (Reffi et al., 2020).

In addition, Reffi and colleagues' study (2020) found that anxiety beliefs (but not emotion beliefs) at the start of a programme of treatment were significantly associated with psychological symptoms at the end of the treatment. This finding indicated anxiety beliefs to be a stronger predictor of combined anxiety and depression symptoms than emotion beliefs, in line with findings from regression analyses conducted by Schroder and colleagues' study (2018). Their study showed that anxiety beliefs (but not emotion beliefs) on hospital admission predicted unique variance in anxiety symptoms at discharge even after controlling for anxiety symptoms, number of inpatient hospitalizations, and treatment expectations. This finding supported results in De Castella and colleagues' study (2015), which found that implicit beliefs specific to social anxiety uniquely predicted treatment-related social anxiety outcomes when controlling for baseline social anxiety and other maladaptive beliefs (perceived social costs, perceived social self-efficacy, and maladaptive interpersonal beliefs).

All in all, there seems to be a strong base of evidence supporting the unique predictive role of anxiety malleability beliefs in the anxiety symptoms of university students and mental health patients.

2.5.2 Relationship with emotion regulation strategies

Anxiety malleability beliefs have a significant positive correlation with reappraisal use and negative correlation with suppression strategies (Schroder et al., 2015). Schroder and colleagues' study (2015) found that university students with stronger beliefs that they could change their anxiety were more likely to engage in the use of healthier emotion regulation strategies such as cognitive reappraisal to reframe emotional experiences in a positive manner. They were also less likely to engage in the use of expressive suppression strategies, which involved the suppression of emotional expressions. Moreover, further research (Schroder et al., 2017) suggested that lower anxiety malleability beliefs were associated with unhealthy behaviour. Specifically, university students who tended to believe that they were less able to change their anxiety were more likely to engage in maladaptive coping strategies including alcohol and substance use as well as self-injury (Schroder et al., 2017).

Unpublished data with eight samples of undergraduates showed that those with higher anxiety malleability beliefs preferred more effortful strategies to develop mastery whilst undergraduates with lower beliefs preferred less effortful strategies for dealing with anxiety (Schroder, 2021). In the same paper, Schroder (2021) also used case studies in a clinical therapy context to illustrate how a patient with high anxiety malleability beliefs persisted through the

discomfort of engaging with effortful therapeutic intervention. On the other hand, a patient with low beliefs dropped out of the intervention early in a programme based on psychoeducation, cognitive behavioural therapy (CBT) and acceptance-commitment principles.

Findings from the above studies suggest good evidence for anxiety malleability beliefs to be positively associated with the likelihood of engaging in healthier emotion regulation strategy use (e.g., cognitive reappraisal) and persisting through more effortful therapeutic interventions. None of the studies had yet assessed the role of reappraisal as a mediator between anxiety beliefs and anxiety outcomes.

2.5.3 Influence over intervention response

De Castella and colleagues' study (2015), which involved a randomised control trial of CBT for social anxiety, found that CBT led to significantly more malleable beliefs about social anxiety in patients who attended 16-weekly sessions of a CBT programme. Moreover, post-treatment anxiety beliefs of the participants explained the CBT-related changes in social anxiety. This finding suggests the importance of considering anxiety malleability beliefs in EP practice, which often involves the use of approaches based on CBT for direct intervention with children and young people, as well as indirect intervention with parents of younger children (Weeks et al., 2017).

Findings from Schroder and colleague's study (2018) suggest that anxiety malleability beliefs are crucial because the motivation to engage with intervention and persist in the effort of using strategies based on reappraisal or CBT hinges on individuals' fundamental beliefs about whether they can change

their anxiety. It is perhaps worth mentioning that other studies which have measured expectancy for anxiety change (Westra et al., 2007), but not using the TOA developed by Schroder (2015), have also found that a stronger belief which indiviudals hold about being able to change their anxiety is associated with earlier response to CBT treatment.

2.5.4 Stability of the construct and reliability of its measure

If anxiety is conceptualised as a normative emotional response (Barlow, 2002), and emotion controllability beliefs are postulated to vary across subordinate features of emotion beliefs (Ford & Gross, 2018) as discussed above, it raises the question of whether anxiety malleability beliefs may also vary across subordinate features of anxiety beliefs. Would the malleability of adolescent anxiety beliefs vary across different features (e.g., a specific component) or contexts (e.g., a specific setting) of anxiety?

Empirically, there are indications that anxiety malleability beliefs may be considered as a relatively stable construct, and its measure has shown good reliability at predicting anxiety outcomes. The measure of anxiety malleability beliefs, TOA, was found to have a significant correlation (r = -.40) with the measure of anxiety as a trait (Schroder et al., 2015). TOA consists of items such as “I have a certain amount of anxiety and I really cannot do much to change it.” This measure of anxiety beliefs was found to be associated with trait-like anxiety, when measured using the State and Trait Anxiety Inventory-Trait (STAI-T; Spielberger et al., 1983) in Schroder and colleague’s study (2015). The STAI-T consists of items that measure the frequency with which individuals experience specific symptoms of anxiety (e.g., “I worry too much

over something that really doesn't matter". In contrast, state-anxiety items of STAI measured individuals' feelings of anxiety at a particular moment in time (e.g., "how you feel right now, at this moment"). This means that trait-anxiety refers to individual differences in anxiety response which is relatively stable whilst state-anxiety fluctuates over time and varies in intensity (Gaudry et al., 1975). The significant correlation between measures of anxiety malleability beliefs and trait-anxiety implies that anxiety malleability beliefs may be a relatively stable construct.

On the matter of stability, Schroder and colleagues (2019) have shown anxiety malleability beliefs to be moderately stable. Their study involved repeated weekly measure of the anxiety malleability beliefs of university freshmen over a period of 5 weeks and found correlations ranging from .49 to .72. This indicates that the TOA measure of anxiety malleability beliefs has good reliability for predicting anxiety outcomes (Schroder et al., 2019). However, it also suggests that as a construct, anxiety malleability beliefs may vary. There is a lack of research in the understanding of how this moderately stable construct which is correlated with trait anxiety varies across features and contexts of anxiety.

2.5.5 Summary of gaps in anxiety malleability research

To summarise, findings from research with university students and clinical populations suggest that anxiety malleability beliefs are a stronger predictor of anxiety outcomes than emotion controllability beliefs, are positively associated with use of healthier strategies for dealing with anxiety and can be increased through CBT based interventions. One of the studies (Schroder et al.,

2019) involved participants who were university freshmen with the average age of 18 (*M* = 18.07). However, there is no known research which has examined 1.) the role of anxiety malleability beliefs in the anxiety and well-being outcomes of 16- to 18-year-olds, 2.) how it relates to their strategy use to deal with anxiety, and 3.) how their beliefs may vary across specific contexts and features of anxiety, such as specific settings or components (e.g., physiological vs cognitive) of anxiety response.

2.6 Emotion controllability beliefs in adolescence

Although there is a lack of research which has examined the role of adolescent anxiety malleability beliefs in mental health and well-being, a few studies in the US and Canada have considered the role of emotion controllability beliefs in adolescents under the age of 18 years (Crawford et al., 2021; De France & Hollenstein, 2021; Ford et al., 2018; Romero et al., 2014; Schleider & Weisz, 2016; Smith et al., 2018). This section will review the findings from these studies.

2.6.1 Emotion controllability beliefs and mental health in adolescents

Most of the research has examined emotion controllability beliefs and depressive symptoms (Crawford et al., 2021; De France & Hollenstein, 2021; Ford et al., 2018; Romero et al., 2014). Romero and colleagues' longitudinal study (2014), one of the earliest studies with younger adolescents, found that higher emotion beliefs reported in the Sixth Grade predicted lower depressive symptoms on average over the two years of the study. Ford and colleagues'

(2018) cross-sectional study also found a positive correlation between emotion beliefs and depressive symptoms with a small effect size (r = .21).

Crawford and colleagues' longitudinal study (2021), which involved a collection of data at three timepoints 18 months apart, found that emotion controllability beliefs mediated the relationship between the valence of adolescents' emotional traits at baseline and their self-reported depressive symptoms 36 months later. This indicates that emotion beliefs collected at 18 months predicted depressive symptoms 18 months later. Similarly, De France & Hollenstein's longitudinal study (2021) also found that emotion beliefs at baseline significantly predicted depressive symptoms six months later.

In addition to the research which has examined depressive symptoms as a mental health outcome, Schleider and Weisz's longitudinal study with 11 – 14 years old (2016) measured the behavioural aspect of mental health through the use of the Strength and Difficulties Questionnaire (SDQ, Goodman et al., 1998). The SDQ asesses behaviour associated with emotional response, conduct and social relationships. Their study found that greater mental health problems were correlated with lower emotion controllability beliefs at each time point for girls, but not boys. The study also found that overall, girls endorsed a lower emotion controllability beliefs than boys. This finding is similar to Ford and colleagues' study with 6 – 18 years old (2018), which found that girls reported lower emotion controllability beliefs than boys. In contrast, Romero and colleague's study with 11 – 14 years old (2014) found that there was no gender difference in average emotion controllability beliefs.

Only one of the six studies has examined anxiety as an outcome variable alongside depressive symptoms (De France & Hollenstein, 2021). The study

found that emotion controllability beliefs at baseline significantly predicted anxiety symptoms six months later, albeit emotion beliefs were a stronger predictor of depressive symptoms (β = -.34) than anxiety symptoms (β = -.24).

In summary, there seems to be strong evidence that emotion controllability beliefs are a significant predictor of depressive symptoms in adolescents. There is also some evidence of gender differences in emotion beliefs in this population. The evidence base for the relationship between emotion beliefs and other mental health outcomes such as behaviour problems and anxiety seems relatively weak.

2.6.2 Emotion controllability beliefs and well-being in adolescents

Two of the studies examining adolescent emotion beliefs have considered well-being outcomes (Romero et al., 2014; Smith et al., 2018). Romero and colleague's study (2014) found that participants with a baseline of lower emotional well-being and higher emotion beliefs showed improvement in emotional well-being over time, but this improvement was not observed in participants with lower emotion beliefs. Findings from Smith and colleagues' large-scale randomised control study (2018) suggests causality between adolescent emotion beliefs and emotional well-being.

It is interesting to note that both studies measured the affective component of well-being using a single-item measure for each valence (i.e., negative and positive) of emotion. Diener (1984) argued that a single-item measure of affective well-being is limited by its reliance on one-item as the variance of response cannot be averaged out. His measure of affective well-being, the Scale of Positive and Negative Experience (SPANE; Diener et al.,

2009) consists of 12 items in total. It includes three items for positive feelings (good, positive, pleasant) and three items for negative feelings (bad, negative, unpleasant), three items for positive emotion (contented, happy, joyful), and three items for negative emotion (sad, afraid, depressed).

In contrast, the single-item measure used in Romero and colleague's study (2014) included a few different emotions in the wording of *each* item. For example, the item for the negative emotion was "I am someone who feels a lot of negative emotion (such as sadness, anger, and nervousness)". This may be problematic in terms of reliability due to variability in the interpretation of the items as the mix of emotions in each item may have a variety of meanings for different respondents, and even the same respondents at different time points.

On the other hand, the single-item measure used in Smith and colleagues' study (2018) is a simplified version of, and arguably more reliable, measure than the one in Romero and colleagues' study (2014). The items were 'I tend to feel a lot of positive emotions at school' and 'I tend to feel a lot of negative emotions at school'. In addition to affective well-being at school, they also measured affective well-being overall in life (i.e., removing the qualifier 'at school' from the respective items). Furthermore, their outcome measures included another component of Diener's tripartite well-being model: life satisfaction - at school and overall in life. Similarly, unlike the Satisfaction with Life Scale developed by Diener and colleagues (1985) which provided a holistic assessment of overall satisfaction with life through a 5-item scale, they used a single-item scale to assess the life satisfaction of participants two to six weeks after the intervention.

The design of Smith and colleagues' (2018) study involved the manipulation of emotion beliefs in a large sample of 11 – 14 years old (*N* = 1645) who were blinded and randomly assigned to experimental and control groups. The experimental group participated in an online intervention involving two 45-minute modules which showed "1.) people can modify their emotional experience, 2.) people can get better at changing their emotion with practice, and 3.) everyone can use emotion regulation strategies such as reappraisal to increase their well-being" (Smith et al., 2018, p. 783). Results from the study show that the intervention significantly increased the emotion beliefs of students in the experimental group, who reported higher affective well-being at school than those in the control group after the intervention. No significant difference was found in affective well-being and life satisfaction overall in life, nor life satisfaction at school.

To summarise, although to date there is limited research on pre-18 adolescent emotion beliefs and well-being, findings from a randomised control experimental study with a large-scale sample (Smith et al, 2018) suggest a causal relationship between the emotion controllability beliefs of 11- to 14-year-olds and their emotional well-being at school, but not life satisfaction. There is no known research on the relationship between adolescent emotion beliefs and psychological well-being – the component of Diener's tripartite model of subjective well-being (2009) which is particularly relevant to the EP role in school as discussed earlier.

2.6.3 Emotion controllability beliefs and regulation strategies in adolescents

Two studies have investigated the relationship between emotion beliefs and regulation strategies in pre-18 adolescents. In congruence with findings from the majority of studies with the adult population (De Castella et al., 2013; Gutentag et al., 2017; Kneeland et al., 2016; Tamir et al., 2007; Veilleux et al., 2015), the cross-sectional study in Ford and colleagues' research (2018) found a significant positive correlation between adolescent emotion controllability beliefs and use of cognitive reappraisal, but not expressive suppression, strategies. As discussed in the section earlier, cognitive reappraisal involves a change of thinking to modulate the emotional impact of a situation; expressive suppression involves a change of behaviour to modulate the emotional response to a situation. The former targets emotional experience whilst the latter targets emotional expression (Vuillier et al., 2021).

The longitudinal study (Ford et al., 2018), which assessed emotion beliefs, regulation strategies and depressive symptoms in 8- to 16-year-olds at two time points 18 months apart also found that children and young people with lower emotion controllability beliefs were less likely to engage in reappraisal strategies 18 months later. No significant correlation was found between emotion beliefs at baseline and suppression use 18 months later. Girls were found to use the suppression strategy less often than boys but there was no significant gender difference in reappraisal use. In addition, the study found that reappraisal significantly mediated the relationship between emotion beliefs at baseline and depressive symptoms 18 months later, when depressive

symptoms reported by the participants and their parents at baseline were controlled for.

The mediating role of reappraisal use in the relationship between emotion beliefs and depressive symptoms was confirmed in De France and Hollenstein's recent study (2021). This finding supported results in De Castella and colleagues' earlier study with undergraduate students (2013). De Castella and colleagues' study (2013) also found that reappraisal mediated between emotion beliefs and psychological distress as well as life satisfaction. This finding indicates that reappraisal may likely mediate between emotion beliefs and well-being outcomes in adolescence.

De France and Hollenstein's study (2021), however, did not find that reappraisal mediated the association between emotion beliefs and anxiety symptoms in adolescents aged 13 – 15. Their study is perhaps one of the few which has measured reappraisal and suppression using a different method that is not based on the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) – the measure that has been widely used in emotion belief studies such as those mentioned at the beginning of this section. It also considered a range of other emotion regulation strategies alongside reappraisal and suppression.

Their method involved asking participants, through an online survey tool, to reflect on the strongest negative emotion that they had experienced recently. They then asked participants how they regulated their emotion using the question, "what did you do in response to your emotion"? Participants were then given six options to choose from, which included "did something to distract myself", "looked at the event from a different perspective", "continually thought about what was bothering me", "tried to slow my heart rate and breathing",

“pretended that I was not upset”, and “showed my feelings”. These six items were chosen as they were the highest scoring items within each factor of the full version of their measure – the Regulation of Emotion Systems Survey (RESS; De France & Hollenstein, 2017). The six factors representing the respective strategies were distraction, reappraisal, rumination, relaxation, suppression and engagement.

The correlational analysis in their study showed that emotion beliefs have a significant positive correlation with reappraisal, that is, the higher the emotion beliefs, the more likely the reappraisal strategy will be used. In addition, their study found a significant negative correlation between emotion beliefs and suppression strategy used in adolescence. This finding contrasted with those from the other adolescent study (Ford et al., 2018) and most studies within the adult population (Gutentag et al., 2017; Kneeland et al., 2016; Tamir et al., 2007; Veilleux et al., 2015), which had found no significant correlation between emotion beliefs and suppression strategy use. Nonetheless, their finding of a significant negative relationship between emotion beliefs and suppression (De France & Hollenstein, 2021) was replicated in another recent study (Vuillier et al., 2021), which examined the relationships between emotion controllability, emotion regulation strategies and eating disorders in adults.

Moreover, De France and Hollenstein’s study (2021) also found that suppression mediated the relationship between emotion beliefs and depressive symptoms, similar to the finding in Vuillier and colleagues’ study (2021) that suppression mediated the negative relationship between emotion controllability and other areas of psychopathology. Thus, their findings indicate that adolescents with lower emotion beliefs are more likely to use suppression

strategies. Interestingly, De France and Hollenstein (2021) suggested that the difference in their findings from much of the literature, with regards to the use of suppression strategies, may be due to their method of using a real-life scenario to elicit responses on strategy use. In most of these studies, the predominant method has been asking respondents to report on the frequency with which they use reappraisal and suppression strategies.

Results from correlational analyses in De France and Hollenstein's study (2021) suggested no significant correlation between emotion beliefs and the other emotion regulation strategy options, namely distraction, rumination, relaxation and engagement. Alternative methods of assessing emotion regulation strategy use in adolescence, such as the RESS (2017), presents a positive step towards the need to consider a wider range of strategies than reappraisal and suppression, which research has mostly focussed on so far. However, further review of their paper which established the psychometric properties of RESS (2017) brings to question the concurrent validity of two of the subscales, relaxation and distraction.

De France and Hollenstein's study (2017) showed concurrent validity for rumination, engagement, suppression and reappraisal with significant correlations found between the specific subscales used in their study and other measures. For example, their 'reappraisal' subscale had a significant correlation (r = .34) with the ERQ scale (Gross & John, 2003). However, no significant correlation was found between their 'distraction' subscale and the Cognitive Behavioural Avoidance Subscale (CBAS; Ottenbreit & Dobson, 2004), the measure used to assess the concurrent validity of their 'distraction' subscale. It is worth noting that perhaps distraction should be considered a form of

attentional change strategy (Ford & Gross, 2018), rather than a behavioural avoidance strategy for emotion regulation. The concurrent validity of “relaxation” was not establised as no other measure was used to assess this.

To summarise, there is a lack of research on pre-18 adolescent emotion beliefs and regulation strategy use. The two studies discussed in this section confirm findings in research with adults that higher emotion beliefs are associated with more reappraisal use. One of the studies also suggested that higher emotion beliefs can be associated with less suppression use. Reappraisal was found to mediate the relationship between emotion beliefs and depression, but not anxiety. Although research considering a wider range of emotion regulation strategies is emerging, valid methods of assessing strategies such as attentional change and response modulation which appear to be more relevant to mental health and well-being outcomes are yet to be found.

2.7 Summary of the literature review

EPs have an increasingly important role in the prevention of mental ill health and the promotion of psychological well-being in schools due to the prevalence of adolescent anxiety and the implementation of Mental Health Support Teams in England. A significant part of this role entails the design and delivery of universal and targeted interventions using evidence-based approaches such as those based on Cognitive Behavioural Therapy, which involves the use of cognitive reappraisal strategies to positively change the way of thinking about an emotion eliciting situation.

Current theory suggests that a key to successful engagement with effective strategies targeting emotional and mental health outcomes, is the core

beliefs that individuals hold about the controllability of their emotions (Ford & Gross, 2018, 2019). Fundamentally, if people do not believe that they can control their emotions, they are less likely to engage with effortful interventions and strategies to modulate their emotional experience.

Research has shown that adolescent beliefs about the controllability of their emotions predict depression outcomes. However, there appears to be a gap in the understanding of how adolescent emotion controllability beliefs relate to anxiety symptoms alongside psychological well-being - the positive and negative dimensions of mental health that are pertinent for the learning and development of school pupils - particularly in the 16 to 18 age group where the risk of high anxiety and low well-being prevails. Furthermore, studies within the adult population highlight the unique role of anxiety malleability beliefs in predicting anxiety outcomes (Schroder, 2021) but no known research has yet examined anxiety malleability beliefs in adolescents under the age of 18 years.

2.7.1 Aims of the study

As there was no previous literature examining the specific roles of anxiety malleability beliefs and emotion controllability beliefs (emotion mindsets) in the anxiety symptoms and psychological well-being of pre-18 adolescents, the present study had two main aims. Firstly, the quantitative phase of the study examined the relationships between emotion mindsets, anxiety and well-being outcomes, and emotion regulation strategy use (such as cognitive reappraisal and expressive suppression) in the 16 to 18 age group. A part of this aim was to distinguish between the roles of anxiety malleability and emotion controllability beliefs in adolescent anxiety and well-being and clarify their relationships with

emotion regulation strategy use. Secondly, the qualitative phase of the study explored the nature of adolescent anxiety malleability beliefs as a construct by considering how it may vary across features and contexts that are specific to anxiety.

Quantitative Phase

The quantitative phase of the study addressed three research questions and tested hypotheses using predictions based on previous research and consistent with current theory (Ford & Gross, 2018, 2019):

RQ1: a.) Is there an association between adolescent emotion controllability beliefs and cognitive reappraisal use? b.) Is there an association between adolescent anxiety malleability beliefs and the use of emotion regulation strategies (cognitive reappraisal and expressive suppression)?

The present study expected that those who report higher emotion controllability and anxiety malleability beliefs would report more use of cognitive reappraisal strategies for emotion regulation, as suggested by the consensus of findings from the emotion mindset literature reviewed (De Castella et al., 2013; De France & Hollenstein, 2021; Ford et al., 2018; Gutentag et al., 2017; Kneeland et al., 2016; Schroder, 2021; Schroder et al., 2015; Tamir et al., 2007; Veilleux et al., 2015).

Based on findings from studies specifically examining anxiety beliefs within the adult population (Schroder et al., 2015), the present study predicted those with higher anxiety malleability beliefs would report less use of expressive

suppression strategies. No significant association between emotion controllability beliefs and expressive suppression was predicted in accordance with findings from adolescent studies using self-report survey of the frequency with which reappraisal and suppression strategies were used (Ford et al., 2018).

RQ2: To what extent can emotion controllability beliefs and anxiety malleability beliefs predict the anxiety symptoms and psychological well-being of 16- to 18-year-olds?

Consistent with findings from adult studies of anxiety beliefs (De Castella et al., 2015; Reffi et al., 2020; Schroder et al., 2015, 2016, 2018), the present study hypothesised anxiety malleability beliefs to be a stronger predictor of anxiety outcomes than emotion controllability beliefs. Emotion controllability beliefs were hypothesised to be a predictor of psychological well-being based on evidence of the relationship between emotion beliefs and emotional well-being in adolescents (Romero et al., 2014; Smith et al., 2018).

RQ3: Does cognitive reappraisal mediate the relationship between emotion mindsets, and anxiety and well-being outcomes?

No known studies have yet examined the mediating role of reappraisal in the relationship between anxiety malleability beliefs, and anxiety and well-being outcomes. Based on findings in adult studies of the significant correlation between anxiety malleability and reappraisal use (Schroder et al., 2015) and the effect of reappraisal-based interventions on anxiety outcomes (De Castella et al., 2015), the present study hypothesised that the use of cognitive reappraisal

will mediate the relationship between anxiety malleability beliefs and anxiety symptoms in adolescents. It was expected, however, that reappraisal will not mediate the relationship between emotion controllability beliefs and anxiety outcomes, as findings from a previous adolescent study suggested (De France & Hollenstein, 2021). It was also hypothesised that reappraisal will mediate the relationship between emotion mindsets (both anxiety malleability and emotion controllability beliefs) and psychological well-being - as indicated by findings from a study with university undergraduates (De Castella et al., 2013) that reappraisal mediated the relationship between emotion beliefs and psychological distress as well as life satisfaction.

Qualitative Phase

For the qualitative phase, the present study explored the construct of anxiety malleability beliefs and considered the notion that it may vary across a set of subordinate features akin to those purported for emotion controllability beliefs in theory (Ford & Gross, 2018). Specifically, the research question for this part of the study was:

RQ4: How do anxiety malleability beliefs vary across different features (e.g., irrational thoughts or physiological symptoms) and contexts (e.g., situations or settings) of anxiety in 16- to 18-year-olds?

Chapter 3: Methodology

3.1 Ontological and Epistemological approach

Overall, the present study leans towards a post-positivist paradigm of ontology, epistemology and axiology (Guba & Lincoln, 1994) whilst adopting a pragmatist approach which combines quantitative and qualitative methods in the research process (Howe, 1988). In accordance with Guba and Lincoln's framework (1994) of conceptualising the post-positivist paradigm, this study takes on a critical realism stance with regards to the objective nature of reality - that can be understood only imperfectly and probabilistically. Primarily, the study considers the relationship between the knower and the known to be independent whilst acknowledging the understanding of reality to be constructed between the researcher and participants during the research process. The study is fundamentally of the belief that research is influenced by the values of the researcher as well as the theory or hypotheses used by the researcher.

The quantitative part of the study considers subjective experience of anxiety and well-being of individuals as realities which can be objectively measured. This means that other people can view the subjective experience of individuals in the same way when the self-report of these experiences are judged against a set of value framework. Similarly, internal processes such as emotion mindsets and emotion regulation strategies are constructs which can be objectively measured. Furthermore, the realities of these internal processes and subjective experience can be known independently from the subjects of these realities.

This ontological and epistemological position provided the basis for using surveys and quantitative methods of data collection and analysis in this study (Owen, 2017). Using surveys to collect quantitative information enabled individuals to self-report subjective experience and offered an objective way of measuring it. The quantitative data was then processed through recognised systems (e.g., statistical software such as SPSS) and analysed through established statistical models. In this way, the quantitative information of subjective experience was objectively collected and analysed. Furthermore, results from inferential statistical analysis of the quantitative data collected from the sample of participants could be generalised to the population that it represented, as in the example of the present study, 16- to 18-year-olds attending inner city post-16 educational provisions in England.

Whilst a quantitative approach to research enquiry offers an objective way to test and confirm hypotheses, it is limited in its ability to answer research questions which are exploratory in nature. Research questions such as the one posed in the qualitative part of this study, which examined how adolescent anxiety beliefs vary, necessitated the use of a qualitative approach to capture and analyse narrative experience. Inevitably, narrative experience is expressed through language, which is socially and culturally constructed and value-laden - thus more difficult to objectively measure and compare between individuals than quantitative information. Furthermore, a qualitative approach also brings with it the acknowledgement that realities experienced by participants, when captured through the process of interview, are subject to the interpretation of the researcher and the influence of their own values, knowledge and beliefs. In addition, the nature of the interview process means that the realities of

experience and their understanding will, to an extent, be co-constructed between the interviewer and the interviewee.

As the study sought to enquire and understand the perspectives of adolescent participants independently from that of the researcher, steps were taken to minimise potential bias of the researcher's values and assumptions during the data collection (e.g., using open rather than closed questions) and analysis processes (e.g., checking coding and themes generated from the qualitative data with other practitioners to ensure the consistency of its interpretation). Findings such as the themes identified in the qualitative part of the research were used to provide a more complete understanding of adolescent emotion mindsets and explain the quantitative results obtained from the participants of this study. These findings could be transferred to a specific context, such as the types of educational settings that participants in this study attended, but time- and context-free generalisations would not be possible (Teddlie & Tashakkori, 2009).

In summary, this study has combined the use of quantitative and qualitative approaches for the purpose of seeking a more comprehensive understanding of the research enquiry which centres on adolescent emotion mindsets. This means that the research methods were driven by the research questions. In this way, the study has adopted the pragmatist paradigm of research enquiry, which considers the mixed method design of combining quantitative and qualitative methods as philosophically compatible and epistemologically coherent (Howe, 1988).

3.2 Design

This mixed-method study used a sequential approach - with quantitative followed by qualitative data collection. Online questionnaires were used to collect quantitative data, which were analysed quantitatively. Subgroups of participants were subsequently identified from those that participated in the online survey. The subgroups of participants representing a range of self-reported anxiety and well-being scores were invited to take part in the interviews. Semi-structured interviews were used to collect qualitative data, which were then analysed thematically.

3.3 Ethical considerations

Ethical considerations for this study were made in adherence with the British Psychological Society's (BPS) *Code for Human Research Ethics* (BPS, 2014) and the Health and Care Professional Council's (HCPC) *Guidance on Conduct and Ethics for Students* (HCPC, 2016). The study received ethical approval from the UCL IOE Research Ethics Committee (see Appendix 1 for the Doctoral Student Ethics Approval Form). There were two main ethical issues arising from the study.

Firstly, the researcher's role as a trainee EP raised the question of whether there was a duty of care to let participants who reported high anxiety know and advise them to discuss it with a teacher or parent or carer. After careful consideration and discussion with the research supervisors, it was felt that participants opted to take part in the research study – not a personal investigation of their anxiety and emotion beliefs. The assumption was that it would be a duty of care to inform participants but there could also be the

possibility that they may not wish to be informed by the researcher about their elevated anxiety. Duty of care was provided by signposting all the participants who took part in the online survey and interviews to organisations which can provide immediate adolescent mental health and well-being support.

Secondly, the ethical issue of confidentiality conflicted with potential safeguarding concerns or direct disclosure made by participants during the interview process. To address this, the researcher discussed with participating schools about their safeguarding policies and ensured that the designated safeguarding leads of the schools were informed of the research study – should any safeguarding concerns need to be reported. The researcher also made it clear to the participants at the beginning of the interview that whilst the information that they shared would be confidential, should their disclosure warrant serious concerns relating to their safety, the researcher would need to discuss and agree with the participants how to share the information disclosed with the school.

3.4 Participants

Firstly, for the quantitative study, a stratified sampling methodology (Robson & McCartan, 2016) was used to recruit participants aged 16 - 18 attending mainstream post-16 educational settings. As discussed in the Chapter 1, approximately 70% of 16- to 18-year-olds attending post-16 educational settings are likely to be in state-funded or independent schools whilst 30% attend sixth form or FE colleges. As the nature of the courses between those offered by schools and FE colleges are distinctly different - the former mainly studies towards A-level examinations and the latter primarily vocation-based

training – the characteristics of the two groups of 16- to 18-year-olds were expected to be different.

The sampling strategy therefore involved recruiting participants from schools and FE colleges offering post-16 education or training in two inner city boroughs, which included 32 secondary schools or sixth form colleges and 4 further educational (FE) colleges. A decision was made by the researcher to focus recruitment efforts in two inner city boroughs, rather than randomly across England, due to the scale and feasibility of the study within the given resources and timeframe. Head teachers of all the schools and FE colleges, as well as head of year groups when appropriate and if identified, were invited to take part by four separate emails in September and October 2021. A total of six post-16 educational settings took part in the study. Table 1 shows the number of participants per school or college.

Table 1

Quantitative study participants and educational settings

Setting ID	Type of educational settings	No. of participants	No. of completed surveys	% of overall sample size
L	Non-maintained selective	273	234	70.0
M	Further Education College	49	39	11.7
K	Maintained selective	40	37	11.1
S	Further Education College	22	9	2.7
E	Maintained comprehensive	14	9	2.7
F	Maintained comprehensive	10	6	1.8
	Total	408	334	100.0

A target sample size of 180 was identified based on priori G*power analysis (Faul et al., 2009) indicating that a minimum sample size of 158 was necessary for the primary analyses (i.e., a regression with two predictors estimating small effect sizes). Of the total sample (N = 408), 74 surveys were left blank or incomplete. In addition, two cases were excluded as the missing

data was more than 10%. This reduced the total sample to 332, of which, 306 participants reported their gender (49% boys, 48% girls, 3% non-binary) and 309 participants reported their age (*M* = 16.7, *SD* = 0.66, *range* = 16 - 18)

The qualitative phase of the study used a nested sampling model (Johnson & Onwuegbuzie, 2004) whereby a smaller subset of participants was selected from the participants in the quantitative study using purposive sampling methodologies. Participants were selected based on their self-reported scores on the anxiety and well-being measures, which were categorised by percentiles (25^{th} percentile and below = low, between 25^{th} and 75^{th} percentile = mid, 75^{th} percentile and above = high). Compared to the T-scores of 12- to 15-year-olds for the General Anxiety (GAD) subscale of the Spence Children's Anxiety Scale (SCAS, 2018), low anxiety is equivalent to a T-score of 50 or below, high anxiety is equivalent to a T-score of 68 or above.

It was decided to select three participants for each of the following subgroups: 1.) high anxiety and low well-being, 2.) high anxiety and high well-being, and 3.) low anxiety and high well-being (as none of the participants who volunteered in the qualitative study reported low anxiety and low well-being). The intention was for the sample to represent the three gender categories: namely male, female and non-binary, as previous adolescent research (Ford et al., 2018) has shown significant gender difference in emotion beliefs, regulation strategies and mental health outcomes. However, it proved difficult to recruit non-binary participants due to the small number of non-binary participants who took part in the study overall and volunteered for the follow-up interview. At the end, a total of seven participants were interviewed for the qualitative study.

Table 2 shows their age, gender, and self-reported anxiety, well-being, and emotion mindsets scores.

Table 2

Age, gender and self-reported scores of the quantitative study participants

Participant ID	Age	Gender	Self-reported scores			
			Anxiety	Well-being	Emotion controllability	Anxiety malleability
S1	17	Boy	High	Low	Mid	Mid
S2	17	Girl	High	High	Mid	Mid
S3	17	Boy	High	High	Mid	Low
S4	16	Non-binary	Low	High	High	High
S5	17	Girl	High	Low	High	Low
S6	16	Boy	Low	High	High	Mid
S7	18	Girl	Low	High	High	High

3.5 Data collection procedures

The study was approved by the UCL IOE Research Ethics Committee. A pilot study was carried out in August 2021 (which will be discussed later in this chapter) prior to inviting schools to take part in the study (see Appendix 2 for email to schools). Schools acted as the gatekeeper and forwarded information about the study to staff members such as form tutors and head of year groups (see Appendix 3) and parents or carers (see Appendix 4) so that they were aware of the research study. Participating schools then forwarded the online survey to students aged 16-18, which included the participant information sheet and consent form (see Appendix 5). As participants were over the age of 16, consent was directly sought from participants. Appendix 6 displays the online survey with a link to the Participant Information Sheet and shows the consent that each participant had to give before they could proceed with the survey.

A preliminary analysis of the survey data was carried out to identify subgroups of participants who had expressed interest to take part in a follow-up interview for the qualitative study. Participants were contacted by the researcher via email, followed by a text message to arrange a time for the interview. The interviews were all conducted by the researcher using video calls (WhatsApp) on the researcher's work mobile phone, which was issued by the Local Authority that the researcher was on placement with as a trainee EP. Permission was sought from each participant to record auditorily the interview (conducted via a video-call) using an audio recording device on the researcher's computer. On average, the length of each interview was 29 minutes (*range* = 16 – 39). One interview was particularly short, which lasted 16 minutes as the participant did not believe they had ever been anxious.

Semi-structured interview was chosen as the method in this qualitative study as it allowed the researcher to explore the topic of anxiety malleability beliefs through an interview guide whilst providing the space for the data to be grounded in the narratives of the participants' experience. *"Semi-structured interviews incorporate both open-ended and more theoretically driven questions, eliciting data grounded in the experience of the participant as well as data guided by existing constructs in the particular discipline within which one is conducting research."* (Galletta, 2013, p. 45)

The semi-structured interview was based on an interview guide (see Appendix 5) with open-ended items whilst allowing questions to emerge from the conversation in an informal way. This interview approach, together with the process of conducting it through a video call over a mobile phone, was

designed to put participants at ease. Table 3 shows a summary of the data collection procedures.

Table 3

Data collection procedures

Data collection procedures	Timeframe
Ethics application	July - September 2021
Pilot study	August 2021
Invite schools to take part in the study	September - October 2021
Collect quantitative data using online survey	September - October 2021
Preliminary analysis of the quantitative data to identify subgroups for qualitative study	November 2021
Recruit participants for qualitative study	December 2021
Collect qualitative data using semi-structured interview	December 2021

3.6 Measures

3.6.1 Emotion controllability beliefs

Emotion controllability beliefs were measured using the adapted 4-item Intrinsic Theories about Emotion Scale (TOE; Tamir et al., 2007). Items on the TOE scale (Tamir et al., 2007) sought response on *general* emotion beliefs (e.g., “no matter how hard they try, people cannot really change their emotions”), which were adapted to seek respondents’ *personal* beliefs about the controllability of their own emotions. In this way, the wording of each item was adapted from ‘*people* cannot really change *their* emotions’ to ‘*I* can’t really change the emotions that *I* have’. This adaptation was based on the evidence that people’s personal beliefs about their own emotions explain greater unique variance than their general beliefs about how controllable emotions are (De Castella et al., 2013).

In a study involving a sample of 216 university undergraduates aged 17 – 29, the personal TOE scale was found to have an internal consistency of .79 (De Castella et al., 2013). Internal consistency of the 4-item TOE scale was calculated for the sample of the present study and the value for Cronbach's Alpha was .85. The TOE scale included the following items: "If I want to, I can change the emotions that I have," "I can learn to control my emotions," "The truth is, I have very little control over my emotions," and "No matter how hard I try, I can't really change the emotions that I have.". Participants were asked to rate their agreements on a 7-point Likert scale from 1 (*strongly disagree*) to 7 (*strongly agree*). The TOE scale had two entity statements and two incremental statements. After reverse coding of the two entity statements, higher scores on the TOE indicated stronger personal beliefs that emotion is controllable.

3.6.2 Anxiety malleability beliefs

Anxiety malleability beliefs were measured using the Implicit Theory of Anxiety scale (TOA; Schroder et al., 2015). TOA has been found to correlate more with trait-like anxiety than transient-state anxiety (Schroder, 2021), which is consistent with the overall conceptual framework of implicit theories. The items were adapted for personal beliefs of anxiety like the measure for emotion controllability beliefs as discussed in Section 2.3.1. The TOA consisted of a 4-item scale with the following items: "I have a certain amount of anxiety and I really cannot do much to change it," "My anxiety is something about me that I cannot change very much," "To be honest, I cannot really change how anxious I am," and "No matter how hard I try, I can't really change the level of anxiety that I have". A 7-point Likert scale was also used for the TOA. All 4 items were entity

statements and after reverse coding, higher scores on the TOA indicated stronger beliefs that anxiety is malleable.

Internal consistency of the 4-item TOA scale had been calculated in a previous study (Schroder, 2018) on an adult sample of 286 participants and Cronbach's Alpha was .94 This value is the same as the Internal consistency calculated for the sample of the present study, which was also .94.

3.6.3 Emotion regulation strategies

The use of cognitive reappraisal and expressive suppression strategies for emotion regulation was measured using the Emotion Regulation Questionnaire for Children and Adolescents (ERQ-CA; Gullone & Taffe, 2012). EQR-CA is an adapted version of the widely used Emotion Regulation Questionnaire (Gross & John, 2003). ERQ-CA uses simpler language aimed at a younger audience. When evaluated with a sample of 827 participants aged 10 – 18 (Gullone & Taffe, 2012), it demonstrated an internal consistency of .83 for the 6-item reappraisal and .75 for the 4-item suppression scales. Internal consistency of the reappraisal scale was calculated for the sample of the present study and the value for Cronbach's Alpha was .83; the internal consistency of the suppression scale was .73.

Reappraisal was measured using six items: "When I want to feel happier, I think about something different", "When I want to feel less bad (e.g. sad, angry, worried), I think about something different", "When I am worried about something, I make myself think about it in a way that helps me feel better", "When I want to feel happier about something, I change the way I'm thinking about it", "I control my feelings about things by changing the way I think about

them", and "When I want to feel less bad (e.g. sad, angry, worried), I change the way I'm thinking about it". Expressive suppression was measured using four items: "I keep my feelings to myself", "When I am feeling happy, I'm careful not to show it", "I control my feelings by not showing them", and "When I'm feeling bad (e.g. sad, angry, worried), I am careful not to show it". The reappraisal and suppression items were mixed in the survey to reduce respondent bias, as was the case in the original validation study (Gross & John, 2003). A 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*) was used for the ERQ-CA.

3.6.4 Anxiety outcomes

As this study considers anxiety as an emotional response which involves subjective experience, as well as cognitive, behavioural, and physiological components, the 6-item Generalised Anxiety (GAD) subscale within the widely used Spence Children's Anxiety Scale (SCAS; Spence et al., 2003) was selected as a measure of anxiety. The GAD has been evaluated with large samples of participants worldwide and demonstrated internal consistency ranging from .66 to .84 (Ramme, 2018). Internal consistency of the 6-item GAD subscale calculated for the sample of this study was .82. Published T-score of the GAD subscale for 12- to 15-year-olds (SCAS, 2018) also enabled comparison of the anxiety scores reported by the sample in the study with community samples. T-scores above 60 are considered elevated and a T-score of 65 represents around top 6% of the population.

The scale included the following items which represent the components of anxiety mentioned above: "I worry about things", "When I have a problem, I get a funny feeling in my stomach", "I feel afraid", "When I have a problem, my

heart beats really fast", "I worry that something bad will happen to me", and "When I have a problem, I feel shaky". Participants self-reported on a 4-point Likert scale (*never*, *sometimes*, *often*, *always*).

3.6.5 Well-being outcomes

Psychological well-being was measured using the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS), which includes 7 items of the 14 full Warwick-Edinburgh Mental Well-being Scale (WEMWBS; Tennant et al., 2007). This scale was selected as its items reflect the constructs in Diener's (2009) conceptualisation of psychological well-being. In addition, it is used by the Office of National Statistics to collect data on the mental well-being of young people aged 16-19 as part of its Annual Population Survey. SWEMWBS was evaluated with 1814 young people aged 15 -21 and demonstrated internal consistency of .88 (Ringdal et al., 2018). Internal consistency of the 7-item SWEMWBS calculated for the sample of this study was .81.

The 7 items in SWEMWBS used in this study include: "I've been feeling useful", "I've been dealing with problems well", "I've been thinking clearly", 'I've been able to make up my own minds about things", "I've been optimistic about the future", "I've been feeling relaxed", "I've been feeling close to other people". Participants were asked to rate their experiences over the past two weeks using a 5-point scale from 1 (*none of the time*) to 5 (*all of the time*).

3.7 Data analysis procedures

3.7.1 Quantitative study

Data collected from the online survey was exported to IBM statistics programme SPSS 27, which was used to conduct analysis of the survey data. Data was anonymised and each participant was assigned a unique identification code. Scores for the two TOE items and all four TOA items that were entity statements were reverse coded as discussed in the previous section. Missing data was identified through case processing summary in SPSS. In addition, the raw data was manually screened for empty cells. The individual score for each scale was 'computed' in SPSS by calculating the mean of the items reported for each scale. For example, in the case of a participant reporting only three of the four items on the emotion beliefs scale, the emotion beliefs score for that participant was calculated by adding the scores of the three items reported and then dividing the sum by three.

Prior to analysis, all the variables were examined for distributional assumptions of multivariate analysis and the assumptions for parametric analyses were met (more details will be provided in the Quantitative Study results Chapter). Cronbach's alpha was computed in SPSS and a range from .74 to .94 was found for all the scales as reported in the previous section, which suggested good internal consistency across the scales for the sample in this study.

Correlational analyses were subsequently conducted for RQ1 to investigate the relationships between the variables; two-step hierarchical regression analyses were carried out to assess RQ2 - the roles of emotion controllability and anxiety malleability beliefs in predicting anxiety symptoms

and psychological well-being; mediational analyses were used for RQ3 to examine the mediating roles of emotion regulation strategies (reappraisal and suppression) in the relationship between the predictor and outcome variables; and independent sample t-tests were used to evaluate if there were gender differences in self-reported emotion mindsets, reappraisal and suppression strategy use, anxiety symptoms and psychological well-being.

3.7.2 Qualitative study

Rationale for the use of reflexive thematic analysis

Data from the interviews was analysed using Braun and colleagues' (2019) reflexive thematic analysis. The reflexive thematic analysis was chosen as the method of analysis for the following reasons. Firstly, reflexive thematic analysis involves generating themes from the data which suited the aim of this qualitative study: to gain an authentic understanding of participants' views and experience as independent as possible from the researcher. Secondly, as discussed in the ontology and epistemology section, the nature of analysing narrative experience means that interpretation of the data can be subjective. Thus, coding reliability approaches which involve seeking agreement between different interpreters would not be suited to this study.

Thirdly, whilst the analysis of the interview data did not use a priori themes, the preconceptions and prior knowledge of the researcher on theories relating to emotion beliefs and regulation strategies are to be acknowledged during the analysis process. This means that approaches such as grounded theory which seeks to develop theory grounded in the data would not be appropriate for this study. Lastly, as the focus of the thematic analysis is to

identify patterns of meaning across participants, the idiographic approach of analysing individual experience such as interpretative phenomenological analysis (IPA) would be less fitting than the reflexive thematic analysis opted for this study.

The process of reflexive thematic analysis

The following six-phase process of the Braun and Clarke's model (2006) was implemented during the thematic analysis of the interview data:

1.) Familiarisation of the data: the audio recording (made on the researcher's computer) of the interviews (conducted via videocalls over the mobile phone) were listened to before they were transcribed using the Otter transcription software. The initial transcripts were then carefully edited against the audio recording of each interview. Data collected from the interview was transcribed within 7 – 10 days of completing the interview. The final interview transcripts were read individually before they were imported into NVivo 12 for coding. The entire dataset was then re-read, and some initial thoughts were noted using the 'annotation' function in NVivo 12.

2.) Generating initial codes: one of the 7 interview transcripts was not included in the coding process as the participant did not consider that they had ever been anxious. This means they could not offer personal experience of how their anxiety beliefs may vary or data which is relevant to the research question. An iterative process of coding and recoding data in the remaining 6 interview transcripts was carried out using the 'Node' function in NVivo 12.

3.) Generating themes: once all the data had been coded, a process of analysing and reviewing the codes was implemented to identify shared meanings to form themes and subthemes.

4.) Review potential themes: the themes, subthemes and data items for the entire dataset were tabulated in Excel and a recursive review of their relationships were carried out, followed by review of the themes in relation to the entire dataset. Review of potential themes was also carried out with the research supervisor (who is knowledgeable about this specific research area) and two other qualified EPs (who have relatively less knowledge in this area of research) to expand the interpretation and increase the trustworthiness of the findings.

5.) Defining and naming themes: after 4 iterations of reviewing potential themes and subthemes, a final set of themes and subthemes was selected together with the data items which were used as extracts in the report of the findings.

6.) Producing the report: a narrative account of the themes and subthemes identified through reflexive thematic analysis in relation to the dataset and the research question will be presented in Chapter 5.

3.8 Pilot Study

The purpose of the pilot study was to:

- Ensure that the measures in the quantitative study were fit-for-purpose
- Consider alternative methods of data collection in the qualitative study
- Trial the interview protocol
- Establish whether the sampling frame for the qualitative study was effective

3.8.1 Participants and procedures

Participants for the pilot study were recruited using a convenient sampling methodology. The researcher posted information about the pilot study on social media and six participants were recruited (four girls aged 18 and two boys aged 16). The procedures of the pilot study for data collection were the same as those in the main study (as outlined in the earlier section). All the participants consented to the study and completed the online survey using the link provided by the researcher. They all expressed interest in taking part in the interview. Self-reported anxiety on the GAD scale was elevated for two of the participants and within the normal range for four participants (when interpreted using the SCAS's GAD T-scores for 12- to 15-year-olds). The researcher firstly trialled a group interview with three girls aged 18 who were good friends and knew each other well. The group interview yielded some extracts which were used as probes to prompt participants to reflect more deeply about their emotion or anxiety beliefs during the individual interviews.

3.8.2 Learning gained from the pilot study

Measures in the quantitative study

One specific concern about the measures in the quantitative study was related to the wording used in the TOE scale. In the original TOE scale designed for adults (Tamir et al., 2007), all the items used the word 'emotions' (e.g., I can learn to control my emotions). During a more recent emotion beliefs study with adolescents aged 10 – 18 (Ford et al., 2018), the language of the TOE scale was slightly adapted for the younger sample: the word 'emotions' was replaced with 'feelings' in all the items of the TOE scale.

The online survey completed by the group interview participants used the word ‘feelings’ in all the items of the TOE scale whereas the survey completed by individual interview participants used the word ‘emotions’. When the participants were asked during the subsequent interview whether the word ‘feelings’ or ‘emotions’ would be more appropriate for adolescents within the 16 – 18 age group, the majority selected ‘emotions’ as their preference. Even the 18-year-old who considered ‘feelings’ as more relatable for teenagers suggested that the word ‘feelings’ was not very explicit:

> *“I would say in terms of with teenagers, they probably would like respond better to feelings. But then I would also argue that like feelings, it’s not like very explicit over what it's talking about, but I definitely think it sounds more relatable.”*

The separate views of the two 16-year-old participants were that:

> *“I think there are more feelings than emotions, but I still think they are a similar kind of thing. Because you feel your emotions. So I think, yeah, I think the word emotions makes you feel, like it makes you think more about how you're feeling. Whereas if they ask you about feelings, it's more just a vague answer. Whereas emotion makes you think a bit more deep rooted, in my opinion.”*

> *“I think emotion sounds a bit more serious than feelings. I imagine if you ask someone both questions. I don't think their response would be drastically different.”*

Although the word ‘feelings’ may be more relatable to adolescents, feedback from the younger participants suggested that adolescents might take more time to consider the questionnaire items if the word ‘emotions’ was used

instead of ‘feelings’. Using the word ‘emotions’ in the TOE scale would arguably be a more valid measure of the overall emotion belief construct, as subjective feelings can be considered as just one of the subordinate features of emotion beliefs (Ford & Gross, 2018).

Method of qualitative data collection

The pilot study trialled group interview as a potential method for collecting data to answer the research question of how adolescent anxiety beliefs may vary across different contexts and features of anxiety. Reflection on the group interview conducted in the pilot study suggested that the group environment may potentially expose participants to the vulnerability of sharing emotion or anxiety beliefs which are very personal. The group interview during the pilot study did not expose participants to risks of vulnerability as the three participants were friends and knew each other well. They appeared to be sensitive to the group member with higher anxiety and lower beliefs that anxiety is malleable and took care in the way that they shared their views. A further implication is that in a group context, individuals may be less forthcoming with their own views or beliefs due to a variety of factors such as dominant view of the group or sensitivity to the vulnerability of others. As a result, individual interviews were selected as the more appropriate method for collecting data in the qualitative study.

Interview protocol

Two aspects of the interview protocol were the focus of the pilot study. Firstly, the medium for conducting the interview. A video call over the mobile

phone was selected as the medium for conducting interviews in this study as it was less formal than other media such as Google Classroom or Microsoft Teams and would enable participants to be more at ease and open to sharing their views. The pilot provided the opportunity to test out the logistical procedure of recording auditorily on the researcher's computer the interviews which were conducted over the mobile phone via a video call.

Secondly, it was necessary to test out the questions in the interview guide for eliciting adolescent views on emotion mindsets as they are implicit in nature, this is, they are not usually stated or expressed explicitly. It would therefore be difficult for participants to answer direct questions about how their anxiety beliefs vary. It was found during the pilot study that questions on times and situations when participants can change their anxiety were more accessible (and conducive to gathering narrative experience for the research question) than direct questions on anxiety beliefs. However, launching directly into questions on times and situations when participants can change their anxiety was somewhat abrupt and curtailed their response. Taking this learning into consideration, more flow was engendered in the interview guide by starting with a series of questions about participants' experience of anxiety (e.g., tell me a time when you have been anxious) before asking questions about other times and situations when they were more able to change their anxiety.

Sampling frame for the qualitative study

The literature review in the previous chapter had offered some theoretical rationale and empirical grounds for exploring how adolescent anxiety beliefs vary across different features and contexts of anxiety. For example, whether

anxiety malleability beliefs may vary depending on how anxiety is experienced and the settings in which it is experienced. Nonetheless, the likelihood of obtaining meaningful data from 16- to 18-year-old participants with a variety of anxiety and well-being scores to answer this research question was uncertain prior to the pilot study.

Preliminary data from the pilot study, however, suggested that anxiety beliefs may indeed vary across contexts and features of anxiety and that participants in this age group with a range of anxiety and well-being scores can articulate their experience well narratively to provide meaningful data. Below is an extract from one of the participants in the group interview to illustrate that anxiety was considered less malleable when the feature of anxiety was intense and expressed physiologically:

> *"I think anxiety feels more overwhelming. And so if you're stuck in it, it feels so much harder to get out of it, especially when you've got like, a shake or if you have a tight chest, it's feels way harder to like, kind of change it. Whereas with emotions, it's like, oh, in a few hours, I'll probably be okay."*

Another extract from one of the individual interview participants suggested that anxiety was more malleable in one specific context over another:

> *"There's a difference between the night before you take an exam and then the night before you get your results, because you can change it the night before you take the exam whereas the night before your results, you can't change that. So I think that makes it a little bit more anxious knowing what's at stake."*

In this way, the preliminary data presented in the extracts above provided support that the sampling frame, namely 16- to 18-year-olds with a range of

anxiety and well-being scores, is effective for gathering narratives for the research question of the qualitative study.

3.8.3 Summary of the pilot study

The pilot study was useful for informing decisions regarding the methods for data collection in both the quantitative and qualitative studies. It provided the opportunity to test out the design and procedures of the interview protocol, as well as confirmed that the sampling frame was effective for collecting qualitative data of the present study.

Chapter 4 Quantitative Study: Results

4.1 Introduction

This section reports the results of the statistical analysis of the data collected during the quantitative study to answer the following research questions:

1. a.) Is there an association between adolescent emotion controllability beliefs and cognitive reappraisal use? b.) Is there an association between adolescent anxiety malleability beliefs and use of emotion regulation strategies (cognitive reappraisal and expressive suppression)?
2. To what extent can emotion controllability beliefs and anxiety malleability beliefs predict the anxiety symptoms and psychological well-being of 16- to 18-year-olds?
3. Does cognitive reappraisal mediate the relationship between emotion beliefs and mental health outcomes?

4.2 Results

4.2.1 Preliminary analyses

Analysis of the survey data was conducted using the IBM statistics programme SPSS 27. Prior to analysis, data for two items of the TOE and 4 items of the TOA were reverse coded as explained in the Methodology Chapter. All variables were examined for missing values and distributional assumptions of multivariate analysis, which showed that assumptions for parametric analyses had been met (see Table 4).

Table 4

Evaluation of distributional assumptions

Assumption	Evaluated by
Sufficient Power:	Priori G*Power analysis: *F* tests Linear multiple regression: Fixed model, R^2 increase, effect size = 0.10, Power = 0.95, 2 predictors, sample size = 158 *T* tests Correlation: Point biserial model, two tails, effect size = 0.3, Power = 0.95, sample size = 134
Sufficient sample size:	Regression: *n* = 332, which is > 104+2 predictors = 106 Correlation: *n* = 332. Which is > 30 and meets the central limit theorem
Outliers (univariate):	Box plots show some participants with very high and low scores for two variables (Reappraisal and PWB) but they are within expected range and there are no extreme scores
Missing data:	Total completed questionnaires: 334 Cases with more than 10% missing data excluded = 2
Normality:	According to central limit theorem, when *n* > 30, then distribution should be normal (Field, 2013) Histograms show a normal distribution Skewness & Kurtosis is < +/- 1
Independence: No singularity & multicollinearity	No pair-wise correlations > .8 Tolerance value = .648 (>.2) VIF = 1.542 (< 10)
No outliers in solution	< 5% of the cases have standardised residuals outside of +/- 2, which is reasonable to expect (Field, 2013) No Cook's distance values > +/- 1
Errors in solution: Homoscedasticity of residuals (error)	ZRESID against ZPRED: the scatterplots are distributed and do not show a pattern
Errors in solution: independence of residuals	Durbin Watson Test value = 2.063 (when DV is anxiety) and 2.064 (when DV is well-being), which is > 1 and < 3, the value is close enough to two for the residuals to be considered uncorrelated (Durbin and Watson's 1951)
Errors in solution: Normally distributed residuals (error)	Histogram of standardised residuals (errors) shows a normal distribution P-P Plots: data fall along the diagonal

Of the total sample (N = 408), 74 surveys were left blank or incomplete. In addition, two cases were excluded as the missing data was more than 10%. This reduced the total sample size to 332. Across all variables, missing data were rare (< 2%), and were imputed with the overall mean for that variable (Tabachnick & Fidell, 2014). Previous research (Ford et al., 2018) has suggested gender, but not age, to be related to emotion beliefs, emotion regulation strategies and mental health outcome variables. This study did not collect ethnicity data nor analyse the effect of age.

The effect of gender was examined in this study and found to be significant for emotion controllability beliefs (t(295) = -4.213, p < .001), anxiety malleability beliefs (t(295) = -4.530, p < .001), anxiety (t(295) = 5.716, p < .001), and well-being (t(295) = -3.691 p < .001), The effect of gender was not significant for reappraisal (t(295) = -1.010, p = .313) and suppression (t(295) = -1.180, p = .239). On average, boys reported higher emotion controllability and anxiety malleability beliefs, reappraisal and expression strategies, and well-being, whilst girls reported higher anxiety. As detailed in Appendix 8, gender did not moderate the relationship between emotion mindsets and anxiety symptoms or psychological well-being. Means, standard deviations, ranges and correlations for all variables are presented in Table 5.

Compared to the T-scores for adolescents aged 12 – 15 (SCAS, 2018), the average anxiety scores reported by the sample of this study were elevated. The mean of the total GAD scores reported by girls (M = 10.73, SD = 4.03, $Range$ = 2 – 18) has a T-score of 64 for adolescents aged 12 – 15 whilst the mean of the total GAD scores reported by boys (M = 8.11, SD = 3.77, $Range$ = 1 – 17) is equivalent to a T-score of 62.

Table 5

Descriptive Statistics and Correlations for Study Variables

Variable	*M*	*SD*	*Range*	*1*	*2*	*3*	*4*	*5*	*6*
1. Emotion controllability	4.54	1.34	1.25 - 7.00	1	.593**	.396**	-.003	-.498**	.509**
2. Anxiety malleability	3.67	1.68	1.00 - 7.00		1	.326**	-.247**	-.607**	.543**
3. Reappraisal	4.38	1.17	1.00 - 7.00			1	-.083	-.264**	.399**
4. Suppression	4.15	1.23	1.00 - 7.00				1	.126*	-.221**
5. Anxiety	1.56	0.68	0.17 - 3.00					1	-.492**
6. Well-being	3.16	0.67	1.14 - 5.00						1

* $p < 0.05$, ** $p < 0.01$

4.2.2 Relationships between emotion mindsets and emotion regulation strategies

To address RQ1, a series of correlational analyses were carried out. As predicted, emotion controllability and anxiety malleability beliefs both demonstrated significant positive correlations with reappraisal ($p < 0.001$). Reappraisal was significantly related to emotion controllability beliefs ($r = .396$, 95% BCa CI [.300, .483]) and anxiety malleability beliefs ($r = .326$, 95% BCa CI [.220, .419]). The effect size was medium.

Both the emotion controllability and anxiety malleability scales showed a negative correlation with suppression; however, the relationship was only significant between anxiety malleability and suppression ($r = -.247$, 95% BCa CI [-.345, -.140], $p < .001$) and the effect size was approaching medium. There was no significant relationship between emotion controllability and suppression ($r = -.003$, 95% BCa CI [-.113, .107], $p = .957$)

4.2.3 Predictive roles of emotion controllability and anxiety malleability beliefs

To address RQ2 and examine the extent to which emotion controllability and anxiety malleability beliefs predicted anxiety and well-being, a series of two-step hierarchical regression analyses were used to investigate the unique variance explained by each scale. For each dependent variable, two models were tested. In the first model, the emotion belief scale was entered first, followed by the anxiety belief scale in the second step. In the second model, this pattern was reversed to control for the variance explained by the anxiety belief scale. To avoid problems associated with multicollinearity, the predictor variables (anxiety malleability and emotion controllability beliefs) were centred by subtracting the mean of each variable from the score of each participant (Tabachnick & Fidell, 2014) and the new centred variables were used in the regression tests. Table 6 presents the standardised regression coefficients (β), R^2 and R^2 Change for the two models in each analysis.

Table 6

Emotion Controllability and Anxiety Malleability Beliefs: Hierarchical Multiple Regressions Predicting Anxiety and Well-Being

Dependent Variable and Step	β		R^2	ΔR^2
	Step	Final		
Anxiety				
1. Emotion Controllability Beliefs	-0.498**	-0.212**	0.248**	
Anxiety Malleability Beliefs		-0.481**	0.397**	0.150**
2. Anxiety Malleability Beliefs	-0.607**	-0.481**	0.368**	
Emotion Controllability Beliefs		-0.212**	0.397**	0.029**
Psychological Well-Being				
1. Emotion Controllability Beliefs	0.509**	0.288**	0.259**	
Anxiety Malleability Beliefs		0.372**	0.348**	0.090**
2. Anxiety Malleability Beliefs	0.543**	0.372**	0.294**	
Emotion Controllability Beliefs		0.288**	0.348**	0.054**

Note. β is the standardised regression coefficient. Adjusted R^2 values and increments for R^2 change significant levels are based upon *F* tests for that step.
* $p < 0.05$, ** $p < 0.01$

Emotion controllability beliefs together with anxiety malleability beliefs accounted for 40% of the total variance in anxiety symptoms and 35% of the total variance in psychological well-being. Emotion controllability and anxiety malleability beliefs were significant predictors of anxiety and well-being (as the *t*-test associated with the *b*-value of each model was significant). Higher emotion and anxiety beliefs predicted lower anxiety symptoms and higher psychological well-being; lower emotion and anxiety beliefs predicted higher anxiety symptoms and lower psychological well-being.

Both the emotion and anxiety belief scales explained unique variance in anxiety and well-being regardless of the order of stepwise entry (as the R^2 Change is significant in all the models). When anxiety was the outcome variable, the standardised beta values were higher for anxiety malleability beliefs (β = - 0.481) than emotion controllability beliefs (β = - 0.212). Similarly, when well-being was the outcome variable, the standardised beta values were higher for anxiety malleability beliefs (β = - 0.372) than emotion controllability beliefs (β = - 0.288). This suggests that anxiety malleability beliefs were a stronger predictor than emotion controllability beliefs for both anxiety and well-being outcomes. The difference in the standardised beta values between anxiety malleability and emotion controllability beliefs was larger in the model when anxiety was the outcome variable (than in the model when well-being was the outcome variable). This suggests that relative to emotion controllability beliefs, anxiety malleability beliefs predicted more unique variance in anxiety symptoms than psychological well-being, as predicted.

4.2.4 The indirect effect of emotion mindsets on anxiety and well-being, through cognitive reappraisal

To address RQ3 and test whether emotion controllability and anxiety malleability beliefs would be related to anxiety and well-being via reappraisal, the indirect effect of the two beliefs via reappraisal were examined for anxiety and well-being using mediational analyses. Specifically, using the Hayes (2018) *Process* SPSS macros for indirect effects, a bootstrap of 5,000 samples was conducted and generated an empirically derived sampling distribution. Confidence intervals (CIs) were derived from this distribution and used to test for significance of the indirect effect – when the range of CI does not contain zero, there is likely to be a genuine indirect effect (Field, 2013).

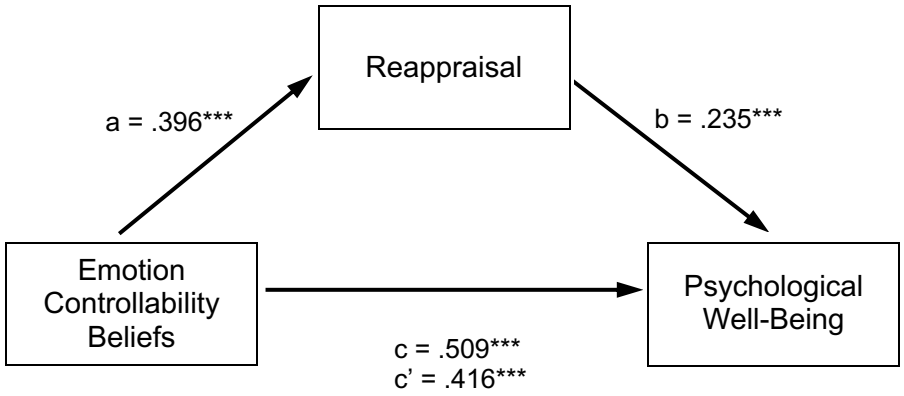
Mediational analysis of model 1

The results for the mediational analysis of Model 1 are presented in Figure 1. There was a significant positive relationship between emotion controllability beliefs and psychological well-being (path c: β = .509*, t*(330) = 10.73, $p < .001$). The positive relationship between emotion controllability and reappraisal was significant (path a: β = .396*, t*(330) = 7.84, $p < .001$), as was the positive relationship between reappraisal and psychological well-being (path b: β = .235, $t(329) = 4.69$, $p < .001$.). Additionally, results showed that the indirect effect of emotion controllability beliefs via reappraisal was significant for psychological well-being, *ab* = .093, BCa CI [.050, .140]. When controlling for the mediating variable of reappraisal, the direct effect of emotion controllability

on well-being was reduced (path c': β = *.416, t*(329) = 8.30, *p* < .001), but remained significant.

Figure 1

Mediation of Model 1



Note. Standardised regression coefficients with their significance and the absolute value of c' are displayed (* = *p* < .05, ** = *p* < .01, *** = *p* < .001)

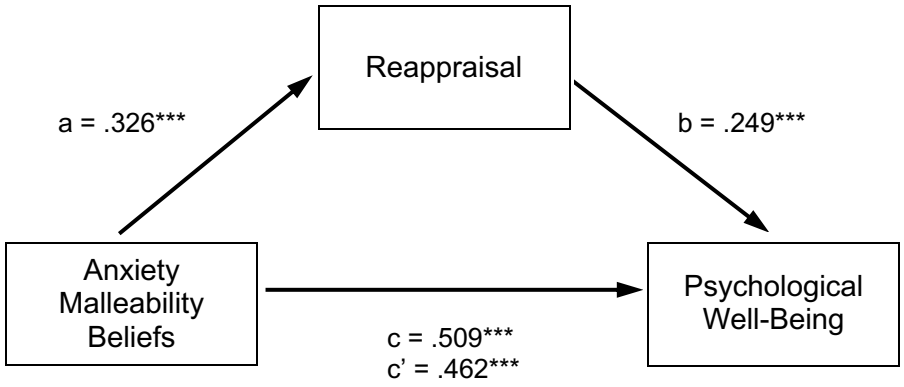
Mediational analysis of model 2

The results for the mediational analysis of Model 2 are presented in Figure 2. There was a significant positive relationship between anxiety malleability beliefs and psychological well-being (path c: β = .543*, t*(330) = 11.74, *p* < .001). The positive relationship between anxiety malleability beliefs and reappraisal was significant (path a: β = .326*, t*(330) = 6.26, *p* < .001), as was the positive relationship between reappraisal and psychological well-being (path b: β = .249, *t*(329) = 5.29, *p* < .001.). Additionally, results showed that the indirect effect of anxiety malleability beliefs via reappraisal was significant for psychological well-being, *ab* = .081 BCa CI [.045, .126]. When controlling for the mediating variable of reappraisal, the direct effect of anxiety malleability on

well-being was reduced (path c': β = .462, *t*(329) = 9.82, *p* < .001), but remained significant.

Figure 2

Mediation of Model 2



Note. Standardised regression coefficients with their significance and the absolute value of c' are displayed (* = *p* < .05, ** = *p* < .01, *** = *p* < .001)

Mediational analysis of model 3

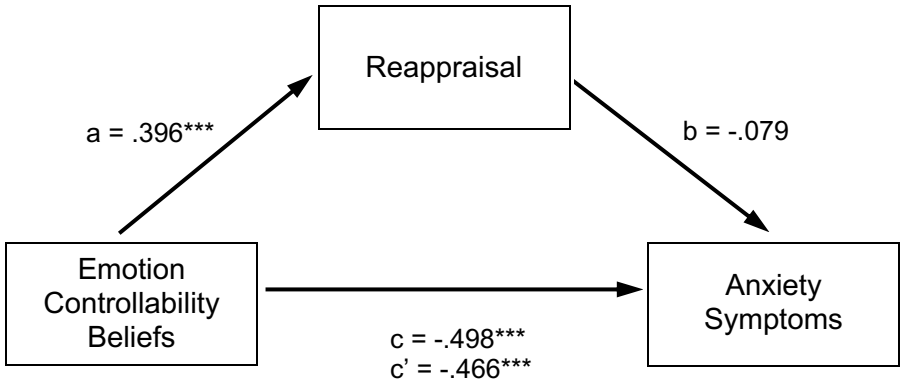
The results for the mediational analysis of model 3 are presented in Figure 3.

As expected, reappraisal did not mediate the relationship between emotion controllability beliefs and anxiety symptoms. The indirect effect of emotion controllability beliefs via reappraisal was not significant for anxiety (*ab* = -.031, BCa CI [-.078, .010]. Emotion controllability beliefs has a significant negative relationship with anxiety symptoms (path c: β = -.498, *t*(330) = -10.42, *p* < .001), which remained significant when reappraisal was controlled for (path c': β = -.466, *t*(329) = -8.98, *p* < .001). Although the positive relationship between emotion controllability beliefs and reappraisal was also significant (path a: β =

.396, *t*(330) = 7.84, *p* < .001), the negative relationship between reappraisal and anxiety symptoms was not significant (path b: β = -.079, *t*(329) = -1.52, *p* = .129).

Figure 3

Mediation of Model 3



Note. Standardised regression coefficients with their significance and the absolute value of c' are displayed (* = *p* < .05, ** = *p* < .01, *** = *p* < .001)

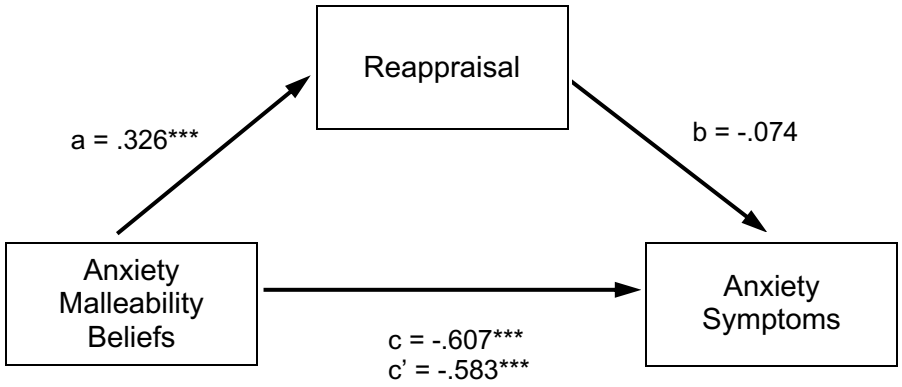
Mediational analysis of model 4

Contrary to the researcher's prediction, however, reappraisal did not mediate the relationship between anxiety malleability beliefs and anxiety symptoms. Results of the mediational analysis are presented in Figure 4. The indirect effect of anxiety malleability beliefs via reappraisal was not significant for anxiety (*ab* = -.024, BCa CI [-.059, .005]. Anxiety malleability beliefs has a significant negative relationship with anxiety symptoms (path c: β = -.607, *t*(330) = -13.87, *p* < .001), which remained to be significant when reappraisal was controlled for (path c': β = -.583, *t*(329) = -12.62, *p* < .001). Although the positive relationship between anxiety malleability beliefs and reappraisal was also significant (path a: β = .326, *t*(330) = 6.26, *p* < .001), the negative relationship

between reappraisal and anxiety symptoms was not significant (path b: β = -.074, $t(329) = -1.60$, $p = .110$).

Figure 4

Mediation of Model 4



Note. Standardised regression coefficients with their significance and the absolute value of c' are displayed (* = $p < .05$, ** = $p < .01$, *** = $p < .001$)

In summary, reappraisal mediated the relationship between emotion mindsets - both emotion controllability and anxiety malleability beliefs - and psychological well-being as predicted. As expected, it did not mediate the relationship between emotion controllability beliefs and anxiety symptoms. Contrary to study prediction, reappraisal did not mediate the relationship between anxiety malleability beliefs and anxiety outcomes, as the negative association between reappraisal and anxiety symptoms was not significant.

Chapter 5: Qualitative Study: Findings

5.1 Introduction

Anxiety can be conceptualised as a normative emotion which consists of cognitive, affective, behavioural and physiological components (Barlow, 2002). Anxiety malleability beliefs are the extent to which a person fundamentally believes they can change their anxiety. In the quantitative part of this study, anxiety malleability beliefs were shown to be a stronger predictor of adolescent anxiety symptoms and psychological well-being than emotion controllability beliefs. Anxiety malleability beliefs was also found to have a significant positive correlation with the use of cognitive reappraisal strategies, and negative correlation with the use of expressive suppression strategies for emotion regulation.

Findings from the pilot study in Chapter 3 indicated that the anxiety beliefs of 16- to 18-year-olds may vary depending on specific features of anxiety (e.g., anxiety is less malleable when it is more intense and experienced physiologically), as well as specific contexts (e.g., anxiety is more malleable before an exam and less malleable before getting results which have important implications).

This chapter will consider findings from the qualitative study in response to the research question: How do adolescent anxiety beliefs vary across different contexts and features of anxiety? This will extend knowledge in existing literature on the subordinate features of emotion beliefs in theory (Ford & Gross, 2018) and contribute to the understanding of the stability of anxiety malleability beliefs as a construct in empirical research (Schroder et al., 2019).

Furthermore, it will inform whether and how anxiety malleability beliefs should be targeted during the design and implementation of interventions in EP practice.

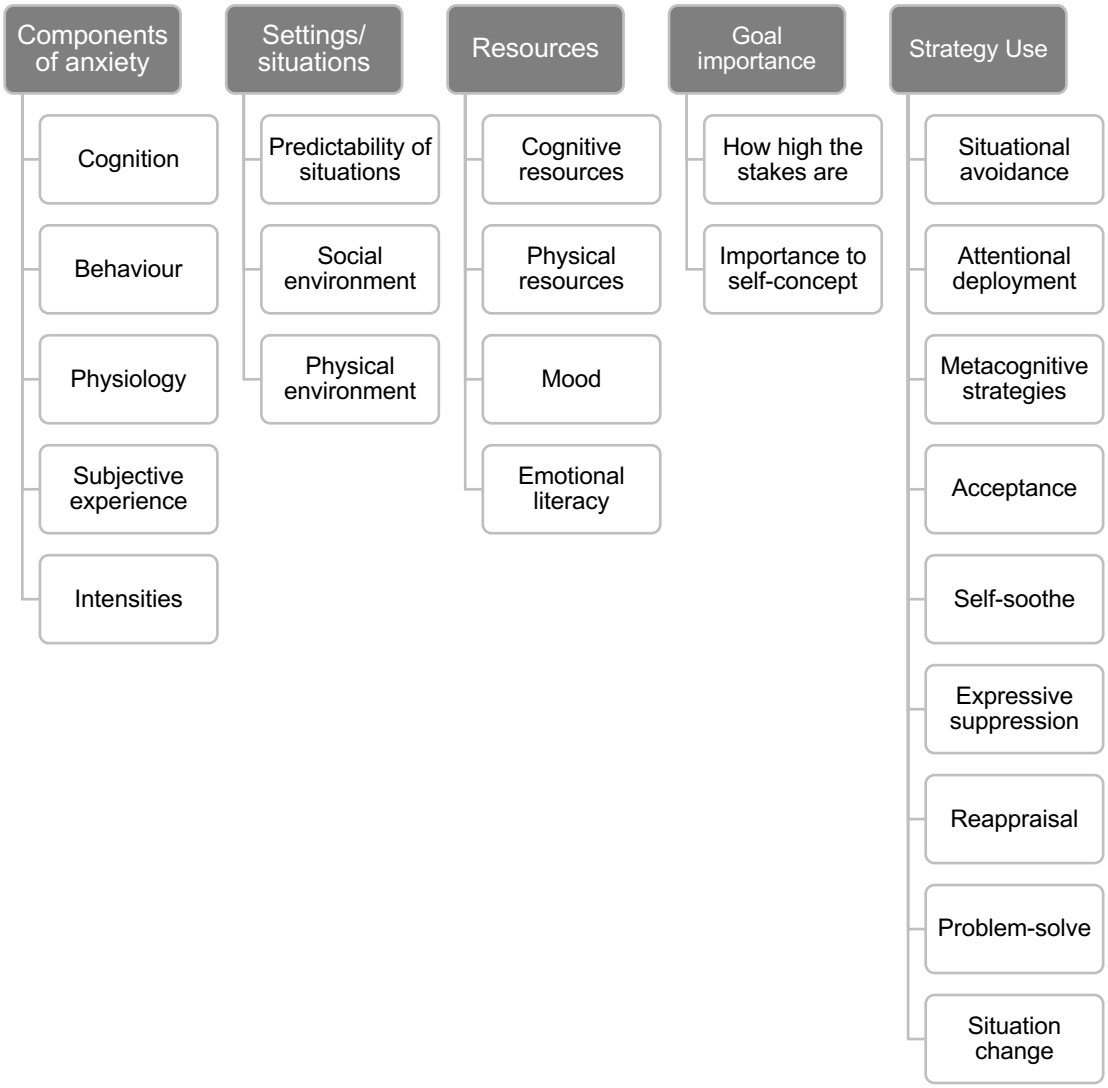
The chapter will include 1.) findings from the reflexive thematic analysis of the entire dataset collected from six participants to answer the above research question, 2.) two examples to illustrate how participants with high and low anxiety malleability vary in their beliefs across features and contexts of anxiety. Findings from the reflexive thematic analysis and the two illustrative examples are pertinent for informing EP practice in the design and implementation of interventions – individually and systemically.

5.2 Findings from the reflexive thematic analysis

Five main themes were identified to address the research question of how adolescent anxiety beliefs vary across different features and contexts of anxiety. These include: ‘Theme 1: Components of Anxiety’; ‘Theme 2: Settings/ situations’; ‘Theme 3: Resources’; ‘Theme 4: Goal importance’; and ‘Theme 5: Strategy use’. Each theme has corresponding subthemes, as illustrated in the overall thematic map (see Figure 5). Throughout this section, a brief description of the themes and some clarification of the subthemes will be provided, using quotes from participants to illustrate the features and contexts upon which anxiety beliefs vary. Participants will be identified as S1 – S6 in this reporting of the analysis.

Figure 5

Thematic Map of Interview Analysis



5.2.1 Theme 1: Components of anxiety

This theme addresses specifically the part of the research question on how adolescent anxiety beliefs vary across 'features' of anxiety, building on the preliminary findings in the pilot study that anxiety can be less malleable when the experience of its physiological component is more intense. The theme encompasses the components of anxiety which were salient to the participants.

Responses fell within five subthemes: ‘cognition’, ‘behaviour’, ‘physiology’, ‘subjective experience’ and ‘intensities’.

Subtheme 1: Cognition

This subtheme refers to the cognitive or thinking component of anxiety. All six participants talked about how they can find it hard to change their anxiety when they were worrying excessively or overthinking about an issue. One of the participants described the disproportionate amount of time occupied by anxious thoughts:

> *“…for about a couple of days, it was like, 50 percent of my thoughts were just like, Oh, my God, what are we gonna do..”* (S1)

For this participant, it seems that they were more affected by the cognitive component than the physiological component of anxiety:

> *“Like it's starting to be it's kind of.. it's something which I don't stop thinking about.”* (S1)
>
> *“As in sometimes, obviously, you get that quick heart and shortness of breath sometimes as well. I mean, that's super, super rare, but that's probably happened once or twice for me”* (S1)

One participant distinguished between rational thoughts and irrational worries of the cognitive component in this way:

> *“I think it begins rationally and then as I get more in my own head, it becomes more physical, more irrational.”* (S5)

For this participant, both the cognitive and physiological components were salient features of their anxiety, which became less malleable as the cognitive component became more intense. In this way, anxiety malleability

beliefs may vary upon specific components of anxiety, which include the salient features as well as their relative intensities.

Subtheme 2: Behaviour

This subtheme refers to the behavioural component of anxiety, what participants do which is a feature of their anxiety. Two participants (S3, S5) talked about their behaviour relating to anxiety. The following extract illustrates one participant implicitly suggesting that their anxiety-induced behaviour was integral to their personality and therefore hard to change:

> *"I'm just like being very awkward around meeting new people and like having difficulty in speaking to people.. asking for help"* (S3)

This participant also described avoidance behaviour which prolonged the anxiety experience:

> *"I'm afraid to email or call and I will put it off for a week or two"* (S3)

Another participant described how the physical environment can impact the behavioural component of their anxiety features, which makes anxiety less malleable:

> *"And then people talking and the loud noises just made it more made me just like inverting on myself"* (S5)

Both participants seemed to consider the behavioural component as a distinctive and ingrained feature of their anxiety. It also appears that features of anxiety (e.g., behaviour) may combine with other contextual factors (e.g., physical environment) to influence anxiety malleability beliefs.

Subtheme 3: Physiology

This subtheme refers to the physiological component of anxiety features. All six participants identified some forms of physiological symptoms from which the associated anxiety malleability beliefs may be inferred. These ranged from:

> *"I like really get scrunched up and anxious, and then I get really bad neck pain"* (S2)
>
> *"I was having problems with breathing properly and that sort of thing"* (S3)
>
> *"I feel more cold, that's about it"* (S4)
>
> *"My hands shake and I can feel my heart beating"* (S5)
>
> *"like it could cause muscle aches and causing you to sweat more"* (S6)

In addition, one participant described a combination of physiological symptoms:

> *"you can't breathe.. like uptight.. if I'm really anxious and stressed, I get like loads of like neck pain or I get, I don't want to eat or I sort of, my appetite goes down or I get really tired."* (S2)

Findings suggest that there is a variety of physiological symptoms affecting different aspects of body functioning, which are features of anxiety that may be experienced in isolation or together and can influence anxiety malleability beliefs.

Subtheme 4: Subjective experience

This subtheme refers to the subjective experience of anxiety, which encapsulates the affective and subconscious components identified by five of the participants (S1, S2, S3, S4, S5). The affective component of anxiety can be a specific feeling, such as fear:

“Some of the fears are pretty irrational, I have to say. It is sort of, it does feel very difficult to deal with.” (S3)

The affective component can also an overall feeling of being overwhelmed, as this participant described:

“I was quite anxious. Because I like I was struggling to catch up. And then also, we suddenly got news that there are big exams. Yeah. And so now I'm a week behind school. And we've got big exams coming. And it all just felt a bit much.” (S1)

Furthermore, one participant talked about the subconscious aspect of anxiety, which seemed less malleable than the aspects of anxiety that can be explained:

“If I feel er.. insecure, or if I feel jealous. If I feel any kind of negative emotion that bites at you..er..and I don't particularly have a reason to explain it or to fully or effectively explain it, then I’ll generally feel a more subconscious kind of anxiety because I won't exactly have a reason for it to happen. I'll just have an unpleasant feeling.” (S3)

In the thematic analysis of the current study, subjective experience was interpreted as the affective component of anxiety – the feelings that one can and cannot explain. Arguably, the cognitive, physiological, and behavioural components of anxiety can also be categorised as experience which is subjective to individual differences. However, from a neurobiological perspective, it seemed problematic to categorise the cognitive and subconscious features of anxiety within the same sub-theme. Thus, the cognitive component and subjective experience were distinguished as separate

subthemes of anxiety features representing the cortical and sub-cortical systems of brain functioning respectively.

Subtheme 5: Intensities

This subtheme refers to the intensity of anxiety experience, which was described in different ways by three of the participants (S4, S5, S6). Two participants with high anxiety malleability beliefs talked about the intensity of their overall anxiety experience in the following ways:

> *'it wasn't that intense, just a slight anxiety about what other future steps might be like to me.'* (S6)
>
> *'Not very… er.. moderate, moderate anxiety, like, five out of 10.'* (S4)

It seems that the intensity of anxiety experience can be specific to one feature of anxiety. As discussed earlier, intensities of the cognitive component can be conceptualised as the proportion of time spent thinking in a rational or irrational way. Intensities can also be considered as how long a physiological symptom lasted and the extent of body functioning which was affected. When the physiological symptoms are more intense, anxiety can be less malleable as one participant described:

> *"I mean, like, the intense anxiety like I had an anxiety attack, which lasted about an hour. And like the really, really bad..erm.. just couldn't really move, that lasted about an hour."* (S5)

5.2.2 Theme 2: Settings/ situations

This theme addresses the part of the research question specific to how adolescent anxiety malleability beliefs vary across 'contexts' of anxiety. It

comprises settings or situations in which adolescent anxiety malleability beliefs vary. It has three subthemes: ‘predictability of situations’, ‘social environment’ and ‘physical environment’.

Subtheme 1: Predictability of situations

All six participants shared how their anxiety malleability beliefs varied depending on the predictability of situations, which includes two elements: 1.) whether the situation is expected and 2.) whether there has been prior exposure to a situation. One participant described that it was difficult to change their anxiety at the beginning of Covid as they did not know what to expect:

> *“I didn't know like, what would happen if you got it really, like, all you heard about with people dying, or people giving it to their grandparents or something”* (S2)

It seems that having done something once increased the anxiety malleability beliefs relating to the same situation, as this participant described:

> *“I think just after sending the first one, it was fine to send the second one..erm… you know just sort of..yeah and..it felt. I don't know..I think it's just getting over the initial hurdle was tough.”* (S3)

Thus, participants’ anxiety beliefs may be more malleable when the situations or contextual factors were not entirely unexpected and unfamiliar, which enabled them to better predict outcomes.

Subtheme 2: Social environment

Four participants (S1, S2, S3, S5) identified the influence of their social environment on anxiety malleability beliefs. One participant identified that they

tended to feel more anxious in a specific setting. This is what the participant said:

> *"I think I'm usually more anxious at school because..you've got all the expectations, you are with your peers."* (S2)

Most of the participants (S3, S4, S5) did not think the location mattered but how secure they felt in the specific social environment. As one participant described:

> *"being with the people who I do trust is always important, regardless of setting"* (S3)

It is worth noting that even for the participant who identified a specific setting where they were usually more anxious, the underlying factor was how secure they felt about the social environment there.

Subtheme 3: Physical environment

Three participants (S3, S4, S5) described the physical environments in which their anxiety malleability beliefs varied. This is how one participant described the impact that sensory stimuli in their physical environment can have on their anxiety malleability:

> *"Like when I'm already on edge, I get much more overwhelmed by just sensory things, like people being loud, or people like brushing up against me. More so then, like, whatever they're saying."* (S5)

Another participant described the kind of physical environment where their anxiety could be more malleable:

> *"the nature serves its purpose of having a place where I can think about it. Where I won't feel claustrophobic almost."* (S4)

It also seems that physical and social environments may combine as contexts of anxiety to influence anxiety malleability beliefs, as the narrative of the following participant illustrates:

> *"I knew that sort of sitting in this room filled with other students in dead silence would just make me feel nervous that people were sort of watching me, even though that doesn't make any sense."* (S3)

5.2.3 Theme 3: Resources

The theme of 'resources' also addresses the 'contexts' part of the research question in that the resources which individuals have may be considered as one of the contextual factors for the malleability of anxiety. This theme has four subthemes, which are: 'cognitive resources', 'physical resources', 'mood' and 'emotional literacy'.

Subtheme 1: Cognitive resources

This subtheme emerged from the narratives of five of the participants (S1, S2, S3, S4, S5), which includes the negative impact of stress and positive impact of speaking with other people on the cognitive resources available to change anxiety. Below is example of the negative impact of stress on anxiety malleability:

> *"I say definitely stress? When I'm more stressed out? Like they sort of almost go together. Like the more stressed I am the more anxious I get and it sort of almost egg each other on it gets worse and worse and worse"* (S2)

This is the way that one participant described how speaking with others can have a positive impact on their cognitive resources by enabling them to look at the issue more objectively:

"Speaking about it..Getting it out loud, and being able to look at it a little bit more objectively, rather than just having it stuck in my brain" (S3)

Although both stress and speaking with others relate to the thinking or cognitive processes which is a context of anxiety impacting malleability beliefs, the former negatively affect the processing capacity whilst the latter positively influence the processing resources available.

Subtheme 2: Physical resources

This subtheme refers to the time and physical resources that participants have to deal with anxiety-inducing situations. All six participants talked about the relationship between physical resources and anxiety malleability. One participant said the following with respect to the lack of time:

"I think when there's lots of work I have to do. Like, let's say, there's lots of homework and there's like lots of chores I have to do…I think when there's too much work that I have to do. That's the time when I'm vulnerable to anxiety" (S6)

Another participant described the impact of their physical health on anxiety malleability in this way:

"when I first got tonsillitis and I was off for a week of school, I was quite anxious." (S1)

Undoubtedly, physical resources may impact the cognitive resources available within the contexts of anxiety. Nonetheless, physical and cognitive

resources are to be distinguished as the influence of physical impediment on the anxiety malleability beliefs of an individual may not be related to their available cognitive resources. Similarly, time constraint may not necessarily implicate a negative impact on available cognitive resources, or the malleability of anxiety as this participant described:

> *"With exams, I feel like it's often the other way around. So I'll be quite nervous going into it. But then once I've sat down at the desk, like, I'm usually much more relaxed"* (S1)

Subtheme 3: Mood

The subtheme of 'mood' offers further insights into the 'contexts' of adolescent anxiety shared by all six participants, which includes general mood over a period of time and specific mood relating to an event. One participant described an overall mood like this:

> *"I usually feel a little bit rubbish around this time of year anyway, when the days start getting shorter, and it starts just getting gray and rainy"* (S3)

Mood can also be an emotional state in the moment of a situation or during the pursuit of an activity as this participant described:

> "*I like listening to music, because that's when I am probably in the calmest state of mind"* (S4).

Furthermore, mood may affect the cognitive component of anxiety features (e.g., worry more) as well as the cognitive resources of anxiety contexts (e.g., more stress) to influence malleability beliefs, as the following narrative illustrates:

“whenever I feel sad, I worry more what that will do for like time management. I worry, just have anxiety about why I'm sad. And I get stresses out even more.” (S5)

Subtheme 4: Emotional literacy

Emotional literacy refers to emotional and self- awareness, which three participants (S2, S4, S6) identified as being related to anxiety malleability. One described an increase in emotional awareness as they got older, which has enabled their anxiety to be more malleable over time:

“A lot (harder to change anxiety) *when I was younger. Recently, like over the past two years maybe, I've gotten far better addressing my thoughts, my feelings.”* (S4)

Another participant talked about the impact of increased life experience and maturity on their self-awareness and the resources they have to change their anxiety:

“Like, before I did GCSE, obviously, my maturity level was a bit lower. I wasn't so knowledgeable about who I was and how I feel.” (S6)

It seems that emotion awareness and understanding, which continues to develop in adolescence alongside life experience, is a contextual factor suggested by participants to influence their anxiety beliefs. An increased level of self-awareness may enhance the resources that adolescents have to change their anxiety experience.

5.2.4. Goal importance

'Goal importance' is also a theme addressing the research question on the 'contexts' of adolescent anxiety beliefs. This theme has two subthemes: 'how high the stakes are' and 'importance to self-concept'.

Subtheme 1: How high the stakes are

This subtheme refers to the stakes which are associated with the achievement goals of individuals. Five participants (S1, S2, S3, S5, S6) shared how anxiety malleability can vary depending on the implications that a situation has on current goals and future aspirations. One participant described how the stakes of a situation and the intensity of the emotional stimuli made anxiety less malleable:

> *"I think it was probably the stakes got higher, when I was like, making eye contact with the person."* (S1)

The 'stakes' of a situation may relate to a proximal goal as the extract below illustrates:

> *"We had a big race. I guess before that, that was, that was my big moment of anxiety in the past month, just like the stress of going up to it."* (S5)

They may also be pertinent to a distal goal or future aspiration as this participant suggested:

> *"I was anxious about where they would take me because with those grades they'd like determine what I choose for sixth form.. where I go for uni. And it made me it made me wonder like what what do I actually want*

to do for uni? And for sixth form and for what's like furthermore because this is one step towards my future." (S6)

Goals relating to short-term achievement and long-term aspiration can be the contextual factors of anxiety. Findings suggest that when the emotional stimuli associated with these goals are more intense, anxiety may be less malleable.

Subtheme 2: Importance to self-concept

This subtheme refers to the contexts of anxiety relating to individuals' self-concept or identity, which was voiced by three of the participants. This was how one participant described it:

"nervousness about not feeling you know.. about who I am as a person that sort of thing." (S3)

Another participant talked about how anxiety was less malleable when their goal was associated with other people having a good impression of them:

"if I was at a new school, like, I found that very, very overwhelming, erm..because I want to make a good impression on people." (S2)

Unlike achievement goals, this subtheme addresses the goals associated with participants' self-concept – who they are and what they are like as a person, how they are perceived and what others think of them. Transitions into a new environment may increase the threat to this goal as the narrative above suggests. In this way, goals relating to self-concept may interact with social environment as contextual factors of anxiety to influence malleability beliefs.

5.2.5 Theme 5: Strategy use

This is the last theme which addresses the 'contexts' of adolescent anxiety beliefs in the research question. It refers to the emotion regulation strategies that individuals use to deal with their anxiety, which can be considered as the 'contexts' of anxiety pertaining to their anxiety beliefs. Thus, within the context of using specific strategies that participants have access to, their anxiety beliefs varied.

It was noted during the process of analysis that participants' knowledge and experience of different strategies impacted their strategy use. For example, the majority of the interview participants (*n* = 5) attended a school which offered mindfulness as a universal provision in the lower school years. One of these participants also learnt to use specific mindfulness practice as part of a targeted intervention provided at school. This suggests that in addition to participants' anxiety malleability beliefs, their knowledge and experience of strategy use may also influence their selection and efforts.

Nine subthemes emerged in relationship to strategy use, which are: 'situational avoidance', 'attentional deployment', 'metacognitive strategies', 'acceptance', 'self-soothe', 'expressive suppression', 'reappraisal', 'problem-solve' and 'situation change'.

Subtheme 1: Situational avoidance

This subtheme refers to the strategy of avoiding anxiety-inducing situations, which appeared to be in the narratives of only one of the six participants. Although this strategy did not change the individual's beliefs about

their anxiety relating to a specific cause, it was used as a strategy to alleviate anxiety as they described:

> *"I'll be able to ignore it most of the other time, but then every now and then it would cross my mind. And then I'd start thinking, Oh, God, I've wasted all that money. And then I'd have similar feelings."* (S3)

There seems to be an overlap between this subtheme and the behavioural component of anxiety in that avoiding a situation can both be a behaviour associated with anxiety and a strategy used to alleviate anxiety, albeit temporarily. 'Choosing to ignore' an anxiety inducing situation, as the narrative above suggests, seems to be a deliberate and effortful use of regulatory strategies within the contexts of anxiety. Thus, it is to be distinguished from the behaviour component of anxiety, which seems to be an ingrained anxiety feature as discussed earlier.

Subtheme 2: Attentional deployment

Attentional deployment emerged as a subtheme in the context of strategy use which can change anxiety. Five of the participants (S1, S3, S4, S5, S6) talked about a range of techniques used, which included both mindfulness practice and distraction strategies. Mindfulness activities can involve the use of specific breathing exercises learnt, such as:

> *"You breathe for four seconds, you hold, and you exhale, then you hold and I think it just helps you.. just like a thing that you can think about one thing.. think about your breathing and nothing else."* (S5)

It can also involve practice based on mindfulness principles as the following extract illustrates:

“a lot of the time I’d sort of zone out and just try and may be stop thinking about anything.. at all, like stare at a coin that doesn't exist, so my eyes go blurry and then that just sort of switch my brain off” (S3)

Engaging in activities to distract oneself was also considered a form of attentional deployment strategy:

“Then a lot of the time, I'll just try and distract myself. I'll just watch Netflix. or you know play games on the computer.” (S1)

One participant described anxiety as malleable when attentional deployment strategies were used before reappraisal:

“music is 30% distraction, and then 70% relaxation. It's like a little bit to distract myself the more I think about it but mainly, to feel better in the moment so that I can think about it later and not feel occupied by it now” (S4)

Another participant talked about the physiological component of anxiety being more malleable when attention deployment strategies (but not reappraisal) were used:

“As in sometimes, obviously, you get that quick heart and shortness of breath sometimes as well. I mean, that's super, super rare, but that's probably happened once or twice for me… Both times I just laid down in my bed and just trying to like, try to get through it… like just the deep breathing is kind of the main thing” (S1)

However, participants did not always find their anxiety to be malleable when attentional deployment strategies were used, particularly when the feature of their anxiety was intense as this participant said:

"And I found when I'm really anxious, I can't really feel my arms and they go quite numb or tingly. So I knew it was like about is like coming up and it was sneaking up on me. And so I excused myself and I went to the bathroom. And I tried to calm down and try to breathe and think about something else and that didn't work very well." (S5)

Findings suggest that attentional deployment is one of the emotion regulation strategies used by participants, sometimes before the use of cognitive reappraisal. Use of attentional deployment strategies may be associated with an increase in anxiety malleability beliefs. It is a strategy use within the contexts of anxiety that seems to interact with features of anxiety, such as physiological symptoms and their intensities, to influence malleability beliefs.

Subtheme 3: Metacognitive strategies

The subtheme refers to the use of strategies to reflect on one's feelings and thinking, which was identified in three of the participants (S1, S2, S4). The following are extracts of how they used metacognitive strategies to change their anxiety:

"A lot of introspections…A lot of thinking about why I feel this way, thinking of things that could make me happy and things that HAVE made me happy in the past" (S4)

"it helped because it means that I could tell myself, right. Well, don't think about school. All I had to think about was the interview" (S1)

"That's not anything I can control and admitting that I'm out of control of this situation, the only thing I can control is how I respond to this" (S2)

The pattern across the narratives of the three participants seems to be the use of metacognitive strategies to reflect on past experience, monitor their own thinking and feelings, evaluate priorities to direct or redirect cognitive resources. The use of metacognitive strategies appears to be a contextual factor that may be conducive to the malleability of anxiety.

Subtheme 4: Acceptance

This subtheme refers to the use of strategies which involved the acceptance of a situation or an emotional response. Three of the participants (S1, S2, S5) talked about the use of acceptance strategies to change anxiety. One described acceptance of a situation in this way:

> *"I can't be anxious about it. I can't stress about it. If it's an exam. I've done all I can. Almost taking the pressure off myself."* (S2)

Another participant talked about accepting their emotional response in this way:

> *"then in the past six months, I've like, tried to just let myself feel stressed. And I think that's helped quite a lot."* (S5)

Acceptance strategy use seems to involve accepting a specific aspect of anxiety, such as the contextual factor of a situation (e.g., having done all one can in an exam). It may also entail accepting a combination of anxiety contexts and features (e.g., the subjective experience of feeling stressed). Findings also suggest that the use of adaptive strategies, such as the acceptance of a situation, may sometimes be combined with the use of maladaptive strategies, such as suppressing rather than acknowledging the negative feelings of being stressed and anxious. Nonetheless, acceptance use can combine strategies

within the contexts of anxiety as well as across contexts and features of anxiety to influence anxiety malleability beliefs.

Subtheme 5: Self-soothe

The subtheme of self-soothe as an emotion regulation strategy emerged from the narratives of two of the participants (S2, S6). To an extent, acceptance strategies can be considered a form of self-soothe as it involves the use of language to reassure oneself, but self-soothe does not necessarily mean accepting that a situation or an emotional response cannot be changed. This is an example of self-soothe which alleviated anxiety:

> *"So I just told myself, I don't need to worry about the future. It's gonna come. I know I'll handle it well, I think it was just me reassuring myself that the future isn't as uncertain as it seems. And it's going to be alright."* (S6)

Findings suggest that self-soothe involves the use of language to reassure oneself and modify the emotional response to an anxiety-inducing situation but may not address the emotional experience itself. It can be considered as a strategy use within the contexts of anxiety which influence malleability beliefs.

Subtheme 6: Expressive suppression

As one of the subthemes in strategy use, expressive suppression is a form of emotion regulation which involves suppressing the expression of anxiety. Two of the six participants (S2, S5) described the use of expressive suppression in their narratives:

"I used to just push anxiety to the back of my mind, repress it and not let myself feel it" (S5)

"I can't be anxious about it. I can't stress about it." (S2)

Suppression seems to be a maladaptive strategy used to modulate an emotional response to an anxiety-inducing situation. Suppression use within the contexts of anxiety can be associated with less malleable anxiety beliefs.

Subtheme 7: Cognitive reappraisal

Cognitive reappraisal is a subtheme of strategy use which refers to changing one's thinking to modify an emotional experience. All six participants talked about using cognitive processes to change their anxiety experience. However, three of the participants (S1, S4, S5) were not explicit about how they changed their thinking. All three used the word 'rationalise' without describing what that involved, as the following illustrates:

"I kind of rationalise it in my head" (S1)

Three participants (S2, S3, S6) gave specific examples of how they changed their thinking, such as the two below:

"trying to make myself see that there's ACTUALLY nothing to be afraid of" (S3)

"like thinking that I'm going to do my best. I've done all I can" (S2)

One participant specifically talked about the use of past experience as evidence to counter irrational worries and change their anxiety experience:

"I think just, like thinking to myself, of how well I'm doing with the GCSE process. And like career, me realizing that I'm tackling everything well,

made me realize that other future problems won't be as difficult as I think they will be." (S6)

Although it is not clear whether '*rationalising*' necessarily involves similar reappraisal processes across the participants, findings suggest that reappraisal use is a contextual factor of anxiety which can increase anxiety malleability.

Subtheme 8: Problem-solve

This subtheme refers to the use of problem-solving strategies to transform anxiety through its cause. All six participants talked about using problem-solving strategies and showed a recognition of the need to deal with the cause of anxiety in order to change it. They shared the belief that anxiety can be malleable when they were able to use strategies to problem-solve. This was how one participant described the association between the use of problem-solving strategies and anxiety malleability:

"But I think sometimes when I don't problem solve, it sort of lingers for a few days or something" (S2)

It is not always clear from the participants' narratives whether problem-solving involves changing the contexts or features of anxiety as the following extract illustrates:

"Thinking about what steps I can take… thinking about all of my different concerns and listing them, then how I can address all of them" (S4)

Two of the participants (S2, S5) gave specific examples of using problem-solving strategies to change the situation *and* the way that they think, such as the one below:

“I feel like, with sort of anxiety around sort of academic stuff, I found that it's actually quite changeable. If I just, I find it like emailing teachers, asking for deadlines, getting extra help, sort of trying not to compare myself.” (S2)

The use of problem-solving strategies may therefore combine strategies involving situational and cognitive change within contexts of anxiety, which seems to be associated with an increase in anxiety malleability beliefs.

Subtheme 9: Situation change

Four participants (S2, S3, S4, S5) talked about the use of strategies to change an anxiety-inducing situation or environment. One participant talked about reducing the anxiety related to a social situation in this way:

“I sort of know going into like scary social situations is always better when I have a friend or someone that I know previously” (S2)

Another participant described how anxiety can be changed by removing themselves from an anxiety-inducing environment:

“removing myself from situations where it is bad. Like when there's a lot of other people present.. I was, I was meant to work in this room that we have called the silent workroom or something, I think that's what it's called. And I knew that sort of sitting in this room filled with other students in dead silence would just make me feel nervous that people were sort of watching me, even though that doesn't make any sense. So I just spoke to the school and I was like, Hey, can I please not do this, and then I actually get myself removed from it.” (S3)

Use of strategies to change situations or environments relating to the contexts of anxiety seems to be associated with the beliefs that anxiety can be malleable.

5.3 Two illustrative examples

This section will use two examples to illustrate how participants with high and low anxiety malleability vary in their beliefs across anxiety features (e.g., intensities of physiological components) and contexts (e.g., internal resources and external environment). Table 7 provides background information about the two participants. It displays their respective scores in emotion mindsets (EC and AM) and emotion regulation (CR and ES) scales, which they completed as part of the survey during the quantitative part of the study. As shown in the table, S5 reported high emotion controllability beliefs but low anxiety malleability beliefs; S4 reported high emotion controllability and anxiety malleability beliefs. S5 reported high anxiety symptoms and low psychological well-being whilst S4 reported low anxiety symptoms and high psychological well-being.

Table 7

Age, gender and self-reported scores of the two participants in the illustrative examples

ID	Age	Gender	Anxiety	Well-being	EC beliefs (Range 7-28)	AM beliefs (Range 7-28)	CR (Range 6 – 42)	ES (Range 4 – 28)
S5	17	Female	High	Low	25	7	20	24
S4	16	Non-binary	Low	High	28	28	35	11

Note. EC = Emotion Controllability, AM = Anxiety Malleability, CR = Cognitive Reappraisal, ES = Expressive Suppression. EC/AM score ranges from 4 – 28, a score of 16 = neither agree nor disagree, 17 & above = tend to agree, 15 & below = tend to disagree

5.3.1 Illustrative Example 1

S5 self-reported high anxiety symptoms and low psychological well-being in their survey response. They tended to strongly believe that they can control their emotions, but they tended to not believe that they can change their anxiety. S5 described that:

"I guess my anxiety, I feel on a much more physical level than I do other emotions.."

It seems that the physiological component was more prominent when their anxiety was more intense, as they said this:

"*Compared to other moments of anxiety I've had, this was a rather mild one. I didn't have... My hands were only shaking. I didn't have any physical symptoms other than that, which I always take as a win."*

When the physiological component of their anxiety was more prominent, it also lasted longer and thus they believed that their anxiety was less malleable when the physiological component was more intense.

They believed that their anxiety was less malleable when they were in a physical environment with a high level of stimuli, as they said that:

"And then people talking and the loud noises just made it more made me just like inverting on myself"

They found anxiety to be less malleable when the situation was unexpected but more malleable when the event was anticipated:

"my really big moments of anxiety are ones that like sneak up on me rather than I know it's happening"

"Say for a race, I knew it was happening a week before so even though I was stressed I like I tried to stay calm about it"

They self-reported low use of reappraisal strategies and high use of suppression strategies in their survey response. Data from their interview suggests that they believed anxiety was malleable when they used attentional deployment strategies to calm first, before they attempted reappraisal or problem-solving strategies:

> *"I kind of just tried to deal with it..a problem at a time, once I had calmed myself down enough that I could talk to people.. just be thinking in a rational way."*

It is not clear whether '*thinking in a rational way*' involved the use of reappraisal strategies. However, their low use of reappraisal strategies (self-reported in the quantitative part of the study) suggests that they may not be using effective reappraisal strategies during their rationalising process.

To sum up, S5 considered emotions to be controllable but anxiety not malleable as anxiety was more likely to consist of physiological components than other emotions and they found anxiety to be less malleable when its physiological component was more intense. S5 also believed anxiety to be less malleable when they found themselves in situations which were unexpected and in physical environments where sensory overload was experienced. For S5, anxiety was more malleable when they used attentional deployment strategies to self-regulate before attempting cognitive strategies to rationalise their thinking.

5.3.2 Illustrative Example 2

S4 self-reported low anxiety symptoms and high psychological well-being in their survey response. They strongly believed that they can control their emotions and change their anxiety.

They believed that the subjective experience of anxiety was less malleable, as they were not able to use strategies to problem solve. This was what they said:

> *'But I think subconscious, subconscious worries are what might cause anxiety, because there's no way for me to know what the problem is and fix it.'*

It should be noted that S4's understanding of anxiety developed during the process of the interview. At the beginning of the interview, they described anxiety as subconscious worries. However, after reflecting on a scenario when they realised there was a cause to their anxiety, they changed their initial stance on anxiety. This was what they said:

> *'When I have been anxious? Erm…Few days ago, worrying about COVID and if I have to self-isolate. And if my parents were tested positive and stuff. Er..Doing a lot of lateral flow tests. Er..Not really sure where things will go. And that was actually for a reason. I have a reason for that. But everything else is subconscious.'*

The implication of this is that they considered the subjective experience of anxiety less malleable than the cognitive component of anxiety features – worries that they have a reason for.

They reported high use of reappraisal strategies and low use of suppression strategies in their survey response. It is worth noting that in the

interview data, they initially thought distraction strategies were a form of maladaptive strategy as they said:

> *'It's not a distraction thing. I addressed it very forwardly. Ar..I like listening to music, because that's when I am probably in the calmest state of mind'*

However, as the interview progressed, they changed their initial stance and said:

> *'I think the music serves a different purpose. Music doesn't make me have a calmer state so that I can go into my thoughts, I won't be able to really think deeply if I'm occupied with music, music is 30% distraction, and then 70% relaxation. It's like a little bit to distract myself the more I think about it but mainly, to feel better in the moment so that I can think about it later and not feel occupied by it now.'*

For S4, their anxiety was less malleable when the feature of anxiety involved subconscious feelings – the subjective experience of anxiety – than when they had a reason for their anxiety. Anxiety was more malleable when they used attentional deployment strategies, when they were in the context of a comfortable physical environment and when they were in a better mood *before* they used metacognitive, reappraisal and problem-solving strategies.

In summary, the above two examples provide illustrations of how anxiety malleability beliefs vary across different features and contexts of anxiety in adolescent participants with high and low anxiety malleability beliefs. The findings presented in Chapters 4 and 5 will be discussed in the next chapter.

Chapter 6: Discussion

This chapter will discuss key findings in relation to the four research questions of the present study, interpret the findings within the context of existing theory and previous research, and consider the implications of the findings for EP practice.

6.1 Discussion relating to RQ1

The association between emotion mindsets and emotion regulation strategies is an important research question as theory and research suggest that individuals' beliefs about whether emotions can be controlled and anxiety can be changed are likely to influence their motivation to engage in the use of healthy emotion regulation strategies, such as reappraisal. As predicted, the present study found that 16- to 18-year-olds with higher anxiety malleability beliefs were significantly more likely to use reappraisal as well as significantly less likely to use suppression for emotion regulation. Adolescents with higher emotion controllability were more likely to use reappraisal but the relationship between emotion controllability and suppression use was not statistically significant. Preliminary analyses of the quantitative data found that on average, boys reported higher scores in emotion and anxiety beliefs, but there was no significant gender difference in reappraisal or suppression use. This result contrasts with findings from Ford and colleague's previous study (2018) with 10- to 18-year-olds, which found girls used significantly less suppression strategy than boys. One possible explanation is that the sample of the present study may have, on average, a higher level of anxiety than the sample in Ford and

colleague's study (2018), which consists of a sample from a wider age range. As higher anxiety is associated with more suppression use, the gender difference in suppression use may be less prominent within the sample of the present study.

The finding of higher emotion controllability beliefs being associated with more reappraisal use is consistent with earlier research with adolescents (De France & Hollenstein, 2021; Ford et al., 2018). In addition, the relationship between emotion beliefs and reappraisal was stronger in the present study than the two previous studies - the correlation co-efficient between the two variables were of medium effect size in the present study compared to the small effect size found in the other two studies. The present study did not find the relationship between emotion beliefs and suppression use to be significant, which is in congruent with the findings in Ford et al.'s study (2018) with adolescents aged 10 - 18. De France and Hollenstein's (2021) study found that higher emotion controllability beliefs was associated with less use of suppression in adolescents. Perhaps the result of the present study, which supported Ford et al.'s (2018) previous findings that the relationship between emotion beliefs and suppression was not significant, could be related to the method of data collection used. The present study had used the same method – online survey of trait reappraisal and suppression use - as Ford et al.'s study (2018) whilst De France and Hollenstein's study (2021) used a real-life scenario to elicit responses on a wider range of emotion regulation strategy use.

The present study also found that secondary school students aged 16 - 18 with higher anxiety malleability beliefs were more likely to use reappraisal and less likely to use suppression for emotion regulation, which is consistent

with earlier research findings with university students (Schroder et al., 2015). The correlation coefficients found in this current study were of a medium effect size between anxiety beliefs and reappraisal, and approaching medium effect between anxiety beliefs and suppression. In comparison, the effect size of the correlation coefficients in Schroder et al.'s study (2015) was small between anxiety beliefs and both reappraisal and suppression.

The associations between emotion mindsets, and reappraisal and suppression are pertinent as they represent strategies targeting emotional experience and emotional expression respectively. The present study found that higher emotion controllability and anxiety malleability beliefs were both significantly associated with the use of reappraisal, which targets emotional experience. However, only anxiety malleability (not emotion controllability) beliefs were found to have a significant relationship with suppression use, which targets emotional expression. Moreover, the strength of the relationship between anxiety malleability beliefs and suppression use was approaching medium effect. The novel implication of this finding is that whilst both emotion controllability and anxiety malleability may be associated with emotion regulation strategies which target the experience of emotion, anxiety malleability beliefs may more likely have unique implications for strategies which target the expression of emotion than emotion controllability beliefs.

6.2 Discussion relating to RQ2

The investigation of whether emotion controllability and anxiety malleability beliefs can predict anxiety symptoms and psychological well-being in adolescents is pertinent for evaluating the importance of emotion mindsets in

adolescent mental health outcomes. The present study found that anxiety malleability beliefs was a stronger predictor of anxiety symptoms and psychological well-being than emotion controllability beliefs. Furthermore, girls reported significantly higher anxiety symptoms, lower well-being, as well as lower emotion controllability and anxiety malleability beliefs than boys. However, gender did not moderate the relationships between emotion mindsets and anxiety and well-being outcomes.

Results from the regression analyses suggested that both emotion controllability and anxiety malleability beliefs were significant predictors of and contributed unique variance to anxiety and well-being outcomes. Moreover, anxiety malleability beliefs were a stronger predictor of both anxiety symptoms and psychological well-being, than emotion controllability beliefs. Perhaps it is not surprising that anxiety malleability beliefs were a stronger predictor of anxiety given the theoretical basis that individual beliefs about the malleability of a specific emotion (e.g., anger) can be different from another emotion (e.g., sadness), as well as emotion as an overall entity (Ford & Gross, 2019). Thus, an individual may strongly believe that they can change or control their overall emotion but may not believe that they can change their anxiety (see Illustrative Example 1 in Chapter 5).

Although previous studies had not examined the role of anxiety beliefs in predicting anxiety symptoms in pre-18 adolescents, the finding in the present study that anxiety beliefs was a strong predictor of anxiety symptoms is consistent with previous longitudinal studies involving the adult population, which found that 1.) higher anxiety malleability beliefs predicted future decrease in anxiety and overall distress (Schroder et al., 2019) and 2.) higher anxiety

malleability beliefs predicted better anxiety outcomes after an intervention programme which taught cognitive-behavioural, dialectic behavioural and acceptance commitment principles (Schroder et al., 2018).

As the first study which had examined the relationship between emotion mindsets and psychological well-being, there is limited research and theory to interpret the finding that anxiety malleability was a stronger predictor of psychological well-being than emotion controllability beliefs. As discussed in the Literature Review Chapter, findings from two studies involving pre-18 adolescents (Romero et al., 2014; Smith et al., 2018) indicated the possibility that higher emotion controllability beliefs may lead to better emotional well-being. Specifically, adolescents with higher emotion beliefs were more likely to report higher positive emotions. In the current study, on the other hand, psychological well-being was used as an outcome measure of how well individuals reported to be functioning (e.g., thinking clearly, feeling relaxed, optimistic and close to other people). Findings of the qualitative part of the current study suggested an association between anxiety malleability beliefs and components of anxiety (e.g., cognition, physiology and their relative intensities). This means that adolescents experiencing a higher intensity of irrational thoughts or physiological symptoms, and thus a lower psychological well-being, may more likely have lower anxiety malleability beliefs.

6.3 Discussion relating to RQ3

Cognitive reappraisal is an emotion regulation strategy which targets a change in the experience of an emotion-eliciting situation. Developing and enhancing reappraisal use is the basis for CBT interventions, which is utilised in

EP practice to support the social, emotional and mental needs of children and young people in schools. Whether reappraisal mediates the relationship between emotion mindsets, and anxiety and psychological well-being is therefore a pertinent question to inform EP practice. The present study found that reappraisal mediated the association between emotion mindsets and psychological well-being, but not between emotion mindsets and anxiety symptoms. Mediational analyses in the present study showed that the effects of emotion mindsets on reappraisal, as well as anxiety symptoms (with and without reappraisal as a mediating variable) were significant. However, the effects of reappraisal on anxiety symptoms (path b in Figures 3 & 4, Chapter 4) was not statistically significant.

Results from the quantitative study that reappraisal did not mediate the association between emotion controllability beliefs and anxiety symptoms support the findings in a recent study with adolescents (De France & Hollenstein, 2021). Their study found that reappraisal mediated the association between emotion beliefs and depressive symptoms, but not between emotion controllability and anxiety. The authors suggested that this may be due to beliefs specific to anxiety having a stronger association with anxiety symptoms than beliefs about overall emotion. However, the present study also found that reappraisal did not mediate the effects of anxiety malleability beliefs on anxiety symptoms, which is surprising given the relationships between anxiety beliefs, reappraisal, and anxiety symptoms established in the literature review and found in the results of the quantitative study.

Findings from the qualitative study may suggest some possible explanations for the quantitative results that 1.) the association between anxiety

beliefs and symptoms was not explained by reappraisal and 2.) the effect of reappraisal on anxiety symptoms was not statistically significant. Essentially, findings from the qualitative part of the present study suggest that adolescents may use a wider range of emotion regulation strategies to deal with anxiety than the two examined in the quantitative study. The qualitative study found that one particular strategy – attentional deployment – was reported to be used by participants before reappraisal. This finding is consistent with theory which suggests that reappraisal may not effectively regulate emotions when the experience of an emotion eliciting situation is too intense (Ford & Troy, 2019). It also supports research findings (Milyavsky et al., 2019) that the intensity of the emotional experience can affect both the driving and restraining forces of reappraisal use. The study (Milyavsky et al., 2019) suggests that although high intensities of emotional experience may increase the drivers to use reappraisal to down-regulate the associated emotions, it may also increase the restraints of choosing reappraisal as the task of implementing it to down-regulate emotions is too difficult.

Thus, reappraisal may be a less effective *and* less preferred choice of emotion regulation strategies than others such as attentional deployment particularly when anxiety experience is more intense. Moreover, adolescents who believe anxiety to be malleable may use regulation strategies other than reappraisal to positively change their anxiety experience.

Although reappraisal may not have a significant role in mediating the association between anxiety beliefs and symptoms, its mediator role was implicated, significantly, in the effects of both emotion controllability and anxiety malleability on psychological well-being. This finding is in line with previous

research (De Castella et al., 2013), which found reappraisal use mediated the effects of emotion controllability beliefs on life satisfaction in undergraduate students.

6.4 Discussion relating to RQ4

The final research question pertains to the nature of anxiety malleability beliefs as a construct in adolescents, which was found to be moderately stable in previous research (Schroder et al., 2019). However, to date, most literature has targeted anxiety malleability as an overall belief (De Castella et al., 2015; Kneeland et al., 2016; Schroder, 2021; Schroder et al., 2015, 2019), which implies anxiety malleability beliefs to be stable across contexts and features of anxiety. The question of how anxiety malleability varies across different features and contexts of anxiety is important for informing how EPs might address anxiety beliefs in practice, which was shown to be a stronger predictor of anxiety and well-being outcomes than emotion controllability beliefs. Findings from the qualitative parts of the study suggest that anxiety malleability may vary across five main themes, one regarding specific features of anxiety: 'components of anxiety', and four relating to specific contexts of anxiety: 'setting/ situations', 'resources', 'goal importance', and 'strategy use'.

As discussed in Chapter 2, Ford & Gross (2019) postulate that emotion controllability may vary across a number of subordinate features, including: 1.) specific emotions (e.g., anger, happiness) or valence (positive vs negative), 2.) specific emotion intensities (high vs low), 3.) specific emotion channels (e.g., subjective feelings or behavioural response), 4.) specific contexts (e.g., particular settings, when pursuing particular goals and given certain self-

regulatory resources), 5.) specific time courses (brief vs extended experience), and 6.) specific targets (e.g., myself, known others or generic others). However, there is a lack of empirical research to inform their theory on the subordinate features of emotion controllability beliefs. This section will discuss how the features and contexts found in the thematic analysis of adolescent anxiety malleability beliefs relate to Ford & Gross's (2019) theoretical framework for the subordinate features of overall emotion controllability beliefs.

6.4.1 Features of anxiety

The theme 'components of anxiety' found in the present study, which relates to the part of the research question on how anxiety malleability varies across the 'features' of anxiety, has the following subthemes: 'cognition', 'behaviour', 'physiology', 'subjective experience' and 'intensities' of anxiety. The subthemes of 'behaviour', 'physiology' and 'subjective experience' map onto the 'emotion channels' of Ford & Gross's (2019) conceptual framework, which considers subjective feelings, expressive behaviours and physiological symptoms as examples of 'emotion channels'. There is evidence from the qualitative study to support that adolescent anxiety malleability beliefs may vary across subjective experience and physiological components of anxiety (e.g., some participants believed that subjective experience of anxiety were not malleable whilst others found it hard to change their anxiety when the physiological component was prominent). Findings of the significant negative association between anxiety malleability and expressive suppression in the quantitative study, together with evidence in the qualitative study, suggest that anxiety beliefs co-vary with expressive behaviour. That is, the more that

adolescents suppress their anxiety, the less likely they will believe anxiety is malleable, and vice versa.

Additionally, the present study found that emotion mindsets may vary depending on the 'specific emotions' in Ford & Gross's (2019) framework - adolescents may not believe their anxiety was malleable even if they believed that their emotions were controllable. One explanation (see Illustrative Example 1 in Chapter 5) was that anxiety can be experienced on a much more physiological level than other emotions. Moreover, physiological components could be more prominent when anxiety was more intense, which may act to substantiate individual beliefs that anxiety was less malleable than other emotions. The physiological component of anxiety included the extent of the body functioning affected and how long it lasted, which also implicated the 'specific time courses' strand of Ford & Gross's (2019) theoretical framework.

In addition to physiological components, adolescent anxiety malleability beliefs were also found to vary depending on the intensities of the cognitive component (how much thinking time it is occupying) and subjective experience (how overwhelming the feeling of anxiousness or nervousness was). This finding provided evidence for the 'emotion intensities' strand of Ford & Gross's (2019) framework.

It is worth noting that the 'cognition' subtheme of the 'components of anxiety' theme found in the thematic analysis did not immediately map onto Ford & Gross's (2019) framework. Perhaps cognition may fall under the 'emotion channels' of their framework, in that overthinking could be considered as a 'channel' of anxiety, to expand the examples of emotion channels

(subjective feelings, expressive behaviours, and physiological symptoms) included in their paper (Ford & Gross, 2019).

6.4.2 Contexts of anxiety

The themes of 'setting/ situations', 'resources', 'goal importance' and 'strategy use' relating to the specific part of the research question on how anxiety malleability varies across 'contexts' of anxiety were found in the qualitative study. These themes mapped onto and extended the 'specific contexts' strand of Ford & Gross's (2019) conceptual framework. Their conceptualisation of 'specific contexts' include the contexts of 1.) pursuing particular goals, 2.) particular settings, and 3.) self-regulatory resources given.

Goal importance

Findings in the qualitative study extended knowledge on Gross and Ford's (2019) theory for how emotion mindsets, and specifically anxiety beliefs, relate to the type and process of goal pursuit. Two types of goals were identified. Firstly, goals relating to short-term achievement and long-term aspirations. Secondly, goals pertaining to the individual's sense of identity or self-concept (e.g., how they are perceived and who they are as a person). It was found in the present study that anxiety was less malleable when the emotional stimuli relating to their goal importance was more intense.

Settings/ situations

The qualitative study found that it was not where the participants were but how they felt about their immediate physical and social environments, which

influenced the variation in their anxiety beliefs. Furthermore, findings from the qualitative study expanded on the environmental condition upon which adolescent anxiety belief might vary to include situational aspects. Participants believed that their anxiety was more malleable when the situation was more predictable but less malleable when the situation was unexpected. Some participants also suggested that having done something once increased the anxiety malleability beliefs associated with the specific situation, which links to habituation theory of exposure in adolescent anxiety research (Peterman et al., 2019; Plaisted et al., 2021).

Resources

The themes of 'resources' and 'strategy use' found in the qualitative study mapped onto the self-regulatory resources conceptualised in Gross & Ford's framework (2019) and expanded this dimension of their 'specific contexts' strand of the subordinate features of emotion controllability beliefs. According to Gross & Ford (2019, p. 75), examples of self-regulatory resources are "*when fatigued or when using particular regulation strategies*". Their conceptualisation suggests that the emotional controllability beliefs may vary depending on the physical or cognitive aspect of resources available to individuals. The present study found that in addition to physical or cognitive resources, the mood and emotional literacy of individuals may also impact the resources that they have available, which will have implications on their anxiety malleability beliefs. Participants in the study found that being in a good mood and having more emotional awareness or understanding gave them more resources to problem-solve and change their anxiety.

Strategy use

This section will discuss three important findings which contribute to knowledge on the relationship between emotion mindsets and regulation strategies.

Range, type, and combination of strategy use

Firstly, it appears that adolescent anxiety malleability beliefs vary upon a broader range and type of strategy use than the two emotion regulation strategies most examined in previous literature as the thematic map in Chapter 6 illustrates. Moreover, it seems that anxiety malleability may also vary depending on the combination and sequence of strategies used.

Nine subthemes of strategy use were found in the present study, which included ‘situational avoidance’, ‘attentional deployment’, ‘metacognition’, ‘acceptance’, ‘self-soothe’, ‘expressive suppression’, ‘reappraisal’, ‘problem-solve’ and ‘situation change’. The nine subthemes represent a wider range of emotion regulation strategies than those which had been examined in previous literature. Most literature in the past had primarily focussed on the association between overall emotion or anxiety beliefs, and reappraisal and suppression use as these two strategies had represented the two broad categories of emotion regulation postulated in Gross’s process model of emotions (1998). The two broad categories, antecedent-focussed and response-focussed strategies, involve manipulating the input to and output of emotional experience respectively.

Gross’s process model of emotions (1998) envisaged a more fine-grained distinction of strategies within the two broad categories of antecedent-

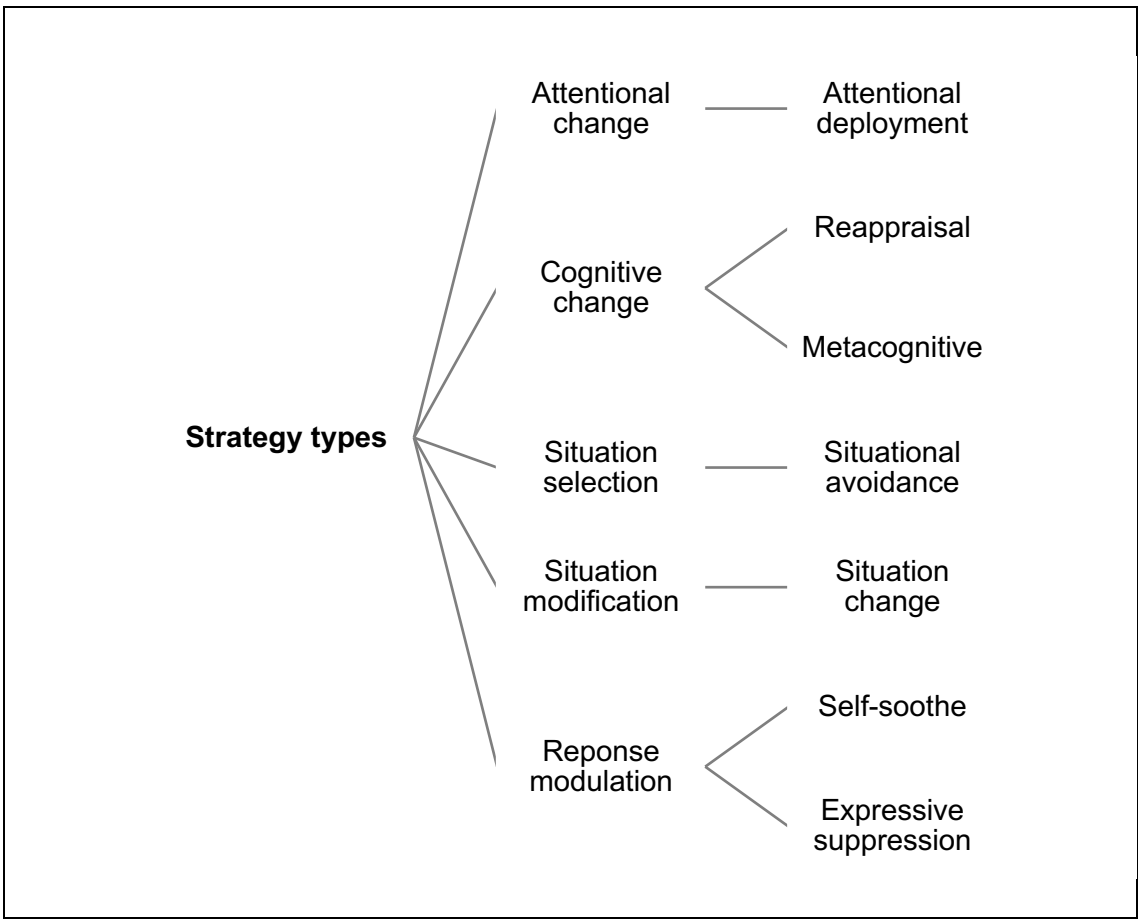
and response-focussed strategies. The model conceptualises ‘situation selection’ (avoidance of situations), ‘situation modification’ (changing the environment) and ‘attention deployment’ (directing attention to or away) and ‘cognitive change’ (reframing of thinking) as the four subtypes of antecedent-focussed strategy. Response-focussed strategies, on the other hand, include subtypes which intensify or reduce the expressive or physiological response to an emotional experience. Although reappraisal and suppression represent only one of the subtypes of antecedent- and response-focussed strategies that are distinctively different from the other subtypes (e.g., attention deployment), studies in emotion mindsets have primarily measured the use of these two strategies due to the widely used Emotion Regulation Questionnaire (Gross & John, 2003) which derives from Gross’s conceptual framework (1988).

The present study found nine subthemes of strategy used by adolescents to deal with anxiety, seven of which mapped onto the five subtypes of emotion regulation strategy in Gross’s conceptualisation (1988) as illustrated in Figure 6. Two of the subthemes of strategy use found in the present study combine the use of emotion regulation strategies. Firstly, using strategies to ‘problem-solve’ may involve both ‘situation modification’ and ‘cognitive change’. Secondly, ‘acceptance’ combines antecedent- and response-focussed strategies. Participants found that the acceptance of a situation or an emotional response was conducive to anxiety malleability. This finding resonates with more recent theory on blended strategies of emotion regulation (Ford & Gross, 2018), such as emotional acceptance, which involves a non-judgemental stance towards attention, cognition and emotion-related response and relates to a more neutral belief about emotions.

One novel finding of the present study, which had been less explored in previous literature, is perhaps the importance of the sequence of strategy use. As shown in the thematic analysis in Chapter 5, anxiety was found to be more malleable when a strategy involving attention change was used *before* cognitive change was attempted to address the source of anxiety.

Figure 6

Thematic Map of Strategy Type



Interaction between strategy use and components of anxiety

Secondly, the present study found that malleability of adolescent anxiety beliefs may vary depending on the interaction between the type of strategy used and specific component of anxiety. The thematic analysis in Chapter 5

provides illustrations for how the physiological components of anxiety could be more malleable when attention deployment strategies (but not reappraisal) were used. Another example was the belief that anxiety may not be malleable when attentional deployment was used to address physiological components of anxiety when they were intense.

The finding of the interactions between strategy use and intensities of anxiety concurs with literature discussed earlier in this chapter (Milyavsky et al., 2019), which found that intensities of emotional stimuli may both be a driver and restraint to the use of more effortful strategies such as reappraisal. Less explored in literature, perhaps, is the interaction between adolescent anxiety beliefs, physiological components of anxiety and strategy use. This may be an important area to consider given the prominent role of the physiological component in adolescent anxiety, which distinguished it from other emotions as participants in the study suggested.

Knowledge, experience and skills of strategy use

Thirdly, it was noted during the process of analysis that participants' selection of strategy use may also depend on whether they had previously learnt to use specific strategies, such as mindfulness practice to deploy attention and reappraisal strategies to reframe situations. The present study also found that participants were not always clear about how they had applied cognitive change strategies such as reappraisal, which may have impacted on the effectiveness of its use to change their anxiety experience. The finding that adolescent anxiety malleability beliefs may vary upon the knowledge, experience, and skills of strategy use relates to recent theory (Ford & Troy, 2019) on the individual-centred factors which may influence successful use of

strategies. Their theory considers the interactions between individual-centred factors (e.g., the skill of using a specific emotion regulation strategy) and situation-centred factors (e.g., the intensity of an emotion-eliciting situation) as determinants of strategy success.

6.5 Implications for EP practice

6.5.1 Implication of quantitative findings

The present study found that anxiety malleability beliefs were a stronger predictor of adolescent anxiety symptoms and psychological well-being than emotion controllability beliefs. In addition, adolescents with higher anxiety malleability beliefs may be more likely to use strategies to change their thinking and less likely to use strategies to suppress their expression of anxiety. Although the use of emotion regulation strategies such as reappraisal has a moderately strong association with emotion and anxiety beliefs, reappraisal did not significantly mediate the effects of emotion or anxiety beliefs on anxiety outcomes. The mediating role of reappraisal, however, was found to be significant between emotion mindsets and psychological well-being. These findings have important implications for the EP role in the 1.) assessment of children and young people with social, emotional, and mental health needs, 2.) design and implementation of universal and targeted interventions to promote mental health and well-being in schools, and 3.) consideration of systemic influence on emotion mindsets in different educational settings

Assessment of anxiety malleability beliefs

Addressing anxiety malleability beliefs seems imperative in EP practice as it was shown to be a significant predictor of anxiety and well-being outcomes. The assessment of anxiety malleability beliefs can be used to predict the propensity and effort of using reappraisal strategies to deal with anxiety. Assessment of emotion and/ or anxiety beliefs at a whole-school level can be used to identify groups of individuals that may benefit from early interventions to target their overall anxiety malleability beliefs.

Previous studies have suggested that baseline assessment of anxiety malleability beliefs can help to determine intervention preference and the likelihood of individuals to persevere with programmes which aim to enhance reappraisal use when dealing with anxiety (Schroder, 2021). The assessment of anxiety malleability beliefs in EP practice may inform how intervention approaches can be tailored so that they can be more targeted and effective.

Furthermore, unlike the clinical approach of assessment, which is diagnostic-oriented and remediation focussed, assessment of anxiety malleability beliefs is in line with the EP practice of examining the underlying psychological processes which facilitate and hinder mental health and well-being in children and young people. The assessment of anxiety malleability beliefs may therefore form a useful part of the EP toolkit.

Intervention design and implementation

Interventions should be designed to address anxiety malleability beliefs *before* targeting strategy use despite the strength, and bi-directional nature, of the relationship between anxiety beliefs and strategy use. This implication for

EP practice is based on the finding in the present study that 1.) the effects of emotion mindsets on anxiety symptoms were significant even when the effect of reappraisal has been controlled for and 2.) reappraisal was not a significant mediator of the relationship between emotion mindsets and anxiety outcomes.

However, as cognitive reappraisal was a significant mediator of the association between anxiety beliefs and psychological well-being, interventions with the objective of enhancing reappraisal use should target psychological well-being outcomes, through indicators such as the Short Warwick-Edinburgh Mental Well-being Scale (SWEMWBS) used in the present study for example. Furthermore, there may be a need to integrate other practices and strategies (e.g., attentional deployment) to increase the effectiveness and reduce the barriers of using reappraisal to regulate emotions when the intensity of anxiety experience is high.

Consideration of systemic influence

If personal beliefs about the controllability of emotion and malleability of anxiety are influenced by the triadic interactions between personal, behavioural and environmental factors in accordance with Bandura's social cognitive theory (Davidson & Davidson, 2003), it may be prudent for EPs to consider the systemic influence which reinforces or challenges fixed mindsets of emotion and anxiety beliefs. For example, it may be useful to examine the interactions between adult modelling of reappraisal or attentional deployment strategies for emotion regulation in different educational settings, and young people's emotion mindsets. It may also be useful to examine whether receiving formative feedback on the efficacy of specific emotion regulation strategies in relationship

to a variety of situations can have a positive impact on adolescent emotion and anxiety beliefs.

6.5.2 Implications of qualitative findings

Individual level

Findings from the qualitative study provide a framework for EPs to assess how adolescent anxiety malleability varies across different features and contexts of anxiety on an individual level. The framework as represented in Chapter 5 can be used to provide a more fine-grained analysis of individual adolescent anxiety beliefs. It may be worthwhile to explore the use of the framework as an audit tool during the initial consultation process to explore with individuals how their anxiety malleability beliefs vary across the components and situational contexts of anxiety, their goals, the resources that they have and the strategies that they use to deal with anxiety.

For example, the consultation process may begin by asking the child or young person about a time when they had been anxious, focussing on eliciting information about the components of anxiety and the situational contexts. The subthemes (e.g., cognition/ intensities/ social/ physical environment) identified in the thematic map can be used as prompts when needed. Then the child or young person may be asked to reflect on how their anxiety experience related to their achievement and personal goals, the resources that they had at the time (e.g., mood, cognitive and physical resources), as well as their knowledge and experience of strategy use. A more in-depth audit of strategy use in relationship to the malleability of their anxiety may be useful to identify specific strategies that have (or not) been helpful for a specific component of anxiety.

Information from the consultation process can then be used to set appropriate intervention goals (e.g., target a specific component of anxiety which is less intense and more malleable first to address their overall anxiety beliefs) and improve the efficacy of strategy use (e.g., identify strategy knowledge gaps, maladaptive strategy use, as well as types of strategy and sequence of strategies that already work well for a specific component of anxiety). Use of such a framework during the consultation process may also help young people develop a sense of agency by strengthening the process of forethought, self-regulation and self-reflection (Bandura, 2018) over their anxiety experience.

Systemic level

In addition to using the thematic map as a framework during consultations with individuals, there may be a role for EPs to provide training to schools about the specific features and contexts upon which anxiety malleability beliefs may vary. This may involve helping school staff to use the framework derived from the qualitative study to reflect on the parts that they can play to influence a positive change in the anxiety malleability beliefs of students. For examples: how they can make situations more predictable, enable the social and physical environment to be more safe and secure, as well as target effective strategies alongside the beliefs which may influence motivation to use these strategies.

It may also be worthwhile to consider how the said framework can be used with 16- to 18-year-old students in school at group or class levels (e.g., form groups) to strengthen knowledge about anxiety components, and share

and reflect on the experience of effective strategy use. The framework can also be used to develop awareness for other internal resources (e.g., mood, physical and cognitive resources) and external factors (e.g., social and physical environment) which may influence anxiety malleability beliefs.

Chapter 7: Conclusion

7.1 Summary of findings

Against the backdrop of an increasing trend of high anxiety being reported by adolescents, which has been exacerbated by the Covid-19 Pandemic, the role of EPs in providing support for mental health and well-being in schools has become more prominent, and critical. An important aspect of the EP role involves the design and delivery of interventions, using evidence-based approaches, to promote mental health and well-being. Much of the focus of these interventions has been on developing the use of healthy strategies for emotion regulation, such as cognitive reappraisal. It seems, however, that the success of such interventions hinges on the motivation to engage in their use and persevere in their practice (Public Health England, 2019), which raises the question of what motivates strategy use. Literature has shown that emotion mindsets, personal beliefs about the controllability of emotions and malleability of anxiety, may be a key to motivation (Ford & Gross, 2018). That is, unless individuals are of the belief that they can control their emotions or change their anxiety, they are much less likely to be motivated to engage in effortful strategies to regulate their emotional experience.

The present study has set out to examine the role of emotion mindsets in the anxiety symptoms and psychological well-being of 16- to 18-year-olds attending post-16 educational settings in an inner city of England. Findings of the study suggest that anxiety malleability beliefs have a stronger role in predicting adolescent anxiety and well-being outcomes than emotion controllability beliefs, even though each has unique contribution to the

outcomes. Pre-18 adolescents with stronger beliefs that they can change their anxiety may more likely use healthier emotion regulation strategies such as reappraisal to reframe their thinking and change their experience of anxiety-inducing situations. They may also be less likely to use maladaptive strategies such as suppression to target the emotional expression of their anxiety experience. These findings are important as they highlight the significance of anxiety malleability beliefs in adolescent anxiety and well-being outcomes. The assessment of anxiety malleability beliefs may therefore be pertinent for informing intervention design and implementation in EP practice.

Notwithstanding the importance of the relationship between anxiety beliefs and strategy use, reappraisal did not significantly explain the effects of malleability beliefs on anxiety symptoms. Thus, addressing beliefs before strategy use may be more imperative for anxiety and well-being outcomes. Reappraisal did, however, explain the effects of emotion mindsets on well-being outcomes. This means that interventions with the objective of developing reappraisal use may more likely impact adolescent psychological well-being than anxiety symptoms. Setting psychological well-being targets in addition to anxiety outcomes may therefore be conducive to intervention effects.

As the first study which has examined the role of anxiety malleability beliefs in adolescents under the age of 18 years, the present study also found that anxiety beliefs vary across specific features and contexts of anxiety. Adolescents may believe that they can change their anxiety (more or less) depending on 1.) the components of anxiety which are salient and their intensities, 2.) the setting or situational contexts of the anxiety experience, 3.) the importance of the anxiety-inducing situations in relation to their achievement

and self-concept goals, 4.) the cognitive, emotional, and physical resources that they have, and 5.) the emotion regulation strategies that they know and use. Anxiety beliefs may also vary upon the interactions between components of anxiety and strategy use. Adolescents may believe that a specific component of anxiety (e.g., physiological symptoms) could be more malleable when a specific strategy is used (e.g., attention deployment strategies but not reappraisal).

A wider range and combination of strategy use in relation to anxiety malleability beliefs emerged from the qualitative findings. The conceptual map derived from the thematic analysis in the study may be further explored and developed for use in the EP consultation process at individual and systemic levels.

7.2 Limitations and future directions

7.2.1 Sample

Whilst the study included participants from a range of post-16 educational settings, the proportion of participants in the final sample from each setting was not representative of the overall pupil population in England. This limited the generalisability of the findings in the quantitative study. Despite the researcher's persistent efforts to recruit, it proved difficult to fully engage the interest of maintained comprehensive schools – educational settings which do not select students based on academic criteria. As the educational settings were acting as gatekeepers to recruit participants for the study, this impacted on the number of participants from maintained comprehensive schools, which represent over 90% of the maintained secondary schools in England (Office for National Statistics, 2021).

As shown in Table 1 of the Methodology Chapter, 81% of the final sample constituted participants who attended two selective, highly academic settings. Students in one of the settings (which provided 70% of the total sample of participants) achieved 68% A*/ A grades in the A-level exams during the two years preceding the Covid-19 Pandemic. This level of achievement is considerably higher than the overall national results of 26% A*/ A grades in the same two years. For this setting, admission criteria involved tests in maths and English, as well as interviews prior to a place being offered typically at around the age of 11.

The implication of this sample characteristic was that participants may more likely have higher psychological well-being than the average pupil population – as arguably they needed to function and cope well to achieve the high level of academic performance demonstrated in the school's overall A-level grades. Furthermore, it is also more likely that on average, the participants in the qualitative study would have higher receptive and expressive language skills than the average pupil population as the selection criteria of their educational settings included an interview process.

It may also be worth bearing in mind that on average, the anxiety level of the overall sample of participants in the current study was elevated when compared to other community samples of adolescents aged 12 – 15. This means that the findings of the study may be more transferrable to pupil populations with elevated levels of anxiety and/ or in educational settings which are selective, co-educational, highly academic and proficient in language skills.

Future studies with a larger sample of students in maintained comprehensive secondary schools can provide a comparison with the quantitative results and qualitative findings from this study.

7.2.2 Study design

Findings from regression analyses in the quantitative study suggested that adolescent anxiety malleability beliefs were a statistically significant predictor of anxiety symptoms and psychological well-being. Although the model has good theoretical rationale and promising empirical support from existing studies with adult samples, the strength of the findings was limited by the cross-sectional nature of the study design. Similarly, as this is cross-sectional data, we cannot be sure of the mediating effects of reappraisal use found in the present study even though the direction and pathway of the mediation models may be assumed from past research and theoretical models.

Future studies using a longitudinal design, such as collecting data at two or three time points over the average two post-16 years of study, can increase the strength of evidence for the predictor role of anxiety malleability beliefs and mediating role of reappraisal use. Furthermore, it may be worthwhile to consider how time points of data collection might align with events during the natural cycle of the academic period to provide ecological validity of the model. For example, collecting data at the beginning of Year 12 and then when students return to school at the beginning of the summer term before major assessment or public examinations.

7.2.3 Model directions

The current study was limited by its scope to analyse the effects of psychological well-being on the relationship between emotion mindsets and anxiety symptoms. There is some initial evidence from longitudinal studies (Romero et al., 2014) to suggest that well-being is a factor in addition to emotion mindsets which can influence adolescent mental health and well-being over time. It will be useful to assess whether psychological well-being can moderate the relationship between anxiety malleability beliefs and anxiety symptoms.

In a similar vein, further investigation of the effects of anxiety symptoms on anxiety malleability beliefs via attentional change and cognitive change strategies may also be useful given the indication from the qualitative study that participants found anxiety to be more malleable when attentional change strategies were used.

Further examination of the moderating effect of psychological well-being, the directionality between anxiety malleability beliefs and anxiety symptoms, together with the mediating role of attentional and cognitive change strategies can be useful for informing intervention design in EP practice. It can inform whether interventions should 1.) include strategies which target the improvement of adolescent psychological well-being, not just the malleability of their mindsets, 2.) incorporate attentional change practices to alleviate anxiety symptoms and influence adolescent anxiety malleability beliefs.

7.3 Contribution to knowledge and professional practice

The present study was the first to examine the role of anxiety malleability beliefs in the anxiety and well-being outcomes of adolescents under the age of 18 years, extending knowledge in previous literature which had primarily focussed on emotion controllability beliefs in adolescence. Compared to emotion controllability beliefs, the present study found that anxiety malleability may be a stronger predictor of anxiety symptoms *and* psychological well-being in adolescents.

Findings of the study also confirmed the association between anxiety malleability beliefs and use of emotion regulation strategies for the modification of both emotional experience *and* expression. This finding seems to distinguish anxiety malleability from emotion controllability beliefs, which showed a significant association with reappraisal but not suppression in the present study and demonstrated a less conclusive relationship with suppression use in previous adolescent research.

In addition, this study was the first to examine psychological well-being as an outcome variable alongside anxiety symptoms in emotion mindset research. Findings of the study suggest that reappraisal use may more likely influence adolescent psychological well-being outcomes than anxiety symptoms.

Furthermore, the present study has contributed to the understanding of anxiety malleability beliefs as a construct and how it may vary across features and contexts of anxiety in pre-18 adolescents. It has also extended knowledge on the range, type and combination of strategies used by adolescents as well

as how they might combine with other anxiety components and contextual factors to influence anxiety beliefs.

The knowledge and understanding gained in the present study has practical implications for the design and implementation of interventions in EP practice. It signifies the importance of addressing anxiety malleability beliefs before focusing on strategy use. It indicates that targeting psychological well-being alongside anxiety outcomes may be conducive for enhancing the use of cognitive reappraisal strategies. It also highlights the pertinence of evaluating the interactions between components of anxiety and a wider range of strategy use in relation to anxiety malleability beliefs.

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Appendices

Appendix 1: Doctoral Student Ethics Approval Form

Institute of Education

UCL

Doctoral Student Ethics Application Form

Anyone conducting research under the auspices of the Institute of Education (staff, students or visitors) where the research involves human participants or the use of data collected from human participants, is required to gain ethical approval before starting. This includes preliminary and pilot studies. Please answer all relevant questions in simple terms that can be understood by a lay person and note that your form may be returned if incomplete.

Registering your study with the UCL Data Protection Officer as part of the UCL Research Ethics Review Process

If you are proposing to collect personal data i.e. data from which a living individual can be identified **you must be registered with the UCL Data Protection Office before you submit your ethics application for review**. To do this, email the complete ethics form to the UCL Data Protection Office. Once your registration number is received, add it to the form* and submit it to your supervisor for approval. If the Data Protection Office advises you to make changes to the way in which you propose to collect and store the data this should be reflected in your ethics application form.

Please note that the completion of the UCL GDPR online training is mandatory for all PhD students.

Section 1 – Project details

a. Project title: The role of emotion beliefs in adolescent mental health and well-being
b. Student name and ID number (e.g. ABC12345678): Wendy Lee 15140094
c. ***UCL Data Protection Registration Number: Z6364106/2021/07/142 social research**
    a. Date Issued: 28/07/2021
d. Supervisor/Personal Tutor: Matt Somerville/ Jey Monsen
e. Department: Psychology and Human Development
f. Course category (Tick one):

PhD	☐
EdD	☐
DEdPsy	☒

g. **If applicable**, state who the funder is and if funding has been confirmed.
h. Intended research start date: 01/08/2021
i. Intended research end date: 31/07/2022
j. Country fieldwork will be conducted in: England
k. If research to be conducted abroad please check the Foreign and Commonwealth Office (FCO) and submit a completed travel risk assessment form (see guidelines). If the FCO advice is against travel this will be required before ethical approval can be

granted: *UCL travel advice webpage*

l. Has this project been considered by another (external) Research Ethics Committee?

Yes ☒
External Committee Name: Enter text
Date of Approval: Enter text

No ☐ ***go to Section 2***

If yes:

- Submit a copy of the approval letter with this application.
- Proceed to Section 10 Attachments.

Note: Ensure that you check the guidelines carefully as research with some participants will require ethical approval from a different ethics committee such as the National Research Ethics Service (NRES) or Social Care Research Ethics Committee (SCREC). In addition, if your research is based in another institution then you may be required to apply to their research ethics committee.

Section 2 - Research methods summary (tick all that apply)

☒ Interviews
☐ Focus Groups
☒ Questionnaires
☐ Action Research
☐ Observation
☐ Literature Review
☐ Controlled trial/other intervention study
☐ Use of personal records
☐ Systematic review – **if only method used go to Section 5**
☐ Secondary data analysis – ***if secondary analysis used go to Section 6***
☐ Advisory/consultation/collaborative groups
☐ Other, give details: Enter text

Please provide an overview of the project, focusing on your methodology. This should include some or all of the following: purpose of the research, aims, main research questions, research design, participants, sampling, data collection (including justifications for methods chosen and description of topics/questions to be asked), reporting and dissemination. Please focus on your methodology; the theory, policy, or literary background of your work can be provided in an attached document (i.e. a full research proposal or case for support document). *Minimum 150 words required.*

Purpose of the research is to inform Educational Psychologist practice in promoting mental health and well-being for secondary students.

The study aims to 1) examine the role of emotion controllability and anxiety malleability beliefs in self-reported anxiety symptoms and psychological well-being, and 2) explore how anxiety is conceptualised by 16- to 18-year-olds attending mainstream schools or further education settings in England.

Research questions:

- To what extent can general emotion controllability beliefs and anxiety malleability beliefs predict the anxiety symptoms and psychological well-being of 16- to 18-year-olds?
- Are 16- to 18-year-olds with higher emotion controllability and anxiety malleability beliefs more likely to use cognitive re-appraisal strategies?
- Are anxiety malleability beliefs a stronger predictor of anxiety symptoms in 16- to 18-year-olds than emotion controllability beliefs?
- How do 16- to 18-year-olds understand anxiety and the individual and situational contexts that influence emotion beliefs?

Research design: a mixed-method design with quantitative methods (online questionnaire) of data collection and analysis followed by qualitative methods (semi-structured interviews with a subset of the participants) to explain the quantitative results.

Participants: 16- to 18-year-olds in mainstream educational settings

Sampling: Cluster sampling for the quantitative part followed by purposive sampling for the qualitative part of the study

Data collection: Online questionnaire (topics: emotion controllability beliefs, anxiety malleability beliefs, emotion regulation strategies, anxiety symptoms, psychological well-being); followed by online semi-structured interviews with a subset of the participants using voice/audio/instant messaging.

Reporting and dissemination: the study will be reported in the applicant's doctoral thesis and a summary report will be disseminated to the educational settings with students which have participated in the study.

Section 3 – research Participants (tick all that apply)

☐ Early years/pre-school

☐ Ages 5-11
☒ Ages 12-16
☒ Young people aged 17-18
☐ Adults please specify below
☐ Unknown – specify below
☐ No participants

Enter text

Note: Ensure that you check the guidelines carefully as research with some participants will require ethical approval from a different ethics committee such as the National Research Ethics Service (NRES) or Social Care Research Ethics Committee (SCREC).

Section 4 - Security-sensitive material (only complete if applicable)

Security sensitive research includes: commissioned by the military; commissioned under an EU security call; involves the acquisition of security clearances; concerns terrorist or extreme groups.

a. Will your project consider or encounter security-sensitive material?
   Yes* ☐ No ☒
b. Will you be visiting websites associated with extreme or terrorist organisations?
   Yes* ☐ No ☒
c. Will you be storing or transmitting any materials that could be interpreted as promoting or endorsing terrorist acts?
   Yes* ☐ No ☒

* *Give further details in **Section 8 Ethical Issues***

Section 5 – Systematic reviews of research (only complete if applicable)

a. Will you be collecting any new data from participants?
   Yes* ☒ No ☐
b. Will you be analysing any secondary data?
   Yes* ☐ No ☒

* *Give further details in **Section 8 Ethical Issues***

*If your methods do not involve engagement with participants (e.g. systematic review, literature review) **and** if you have answered **No** to both questions, please go to **Section 8 Attachments.***

Section 6 - Secondary data analysis (only complete if applicable)

a. Name of dataset/s: Enter text
b. Owner of dataset/s: Enter text
c. Are the data in the public domain?
   Yes ☐ No ☐
   If no, *do you have the owner's permission/license?*
   Yes ☐ No* ☐

d. Are the data special category personal data (i.e. personal data revealing racial or ethnic origin, political opinions, religious or philosophical beliefs, or trade union membership, and the processing of genetic data, biometric data for the purpose of uniquely identifying a natural person, data concerning health or data concerning a natural person's sex life or sexual orientation)?
   Yes* ☐ No ☐

e. Will you be conducting analysis within the remit it was originally collected for?
   Yes ☐ No* ☐
f. **If no**, was consent gained from participants for subsequent/future analysis?
   Yes ☐ No* ☐
g. **If no,** was data collected prior to ethics approval process?
   Yes ☐ No* ☐

* *Give further details in* ***Section 8 Ethical Issues***

If secondary analysis is only method used ***and*** *no answers with asterisks are ticked, go to* ***Section 9 Attachments.***

Section 7 – Data Storage and Security

Please ensure that you include all hard and electronic data when completing this section.

a. Data subjects - Who will the data be collected from?
   16- to 18-year-olds in mainstream educational settings
b. What data will be collected? Please provide details of the type of personal data to be collected
   Questionnaire response and audio or video recording of interviews
   Is the data anonymised? Yes ☒ No* ☐
   Do you plan to anonymise the data? Yes* ☒ No ☐
   Do you plan to use individual level data? Yes* ☒ No ☐
   Do you plan to pseudonymise the data? Yes* ☒ No ☐

   ** Give further details in* ***Section 8 Ethical Issues***

c. **Disclosure –** Who will the results of your project be disclosed to?
Participants, schools, local authorities, UCL tutors
Disclosure – Will personal data be disclosed as part of your project?
No

d. Data storage – Please provide details on how and where the data will be stored i.e. UCL network, encrypted USB stick**, encrypted laptop** etc. Anonymised data will be stored on the UCL servers and encrypted laptop

*** Advanced Encryption Standard 256 bit encryption which has been made a security standard within the NHS*

e. **Data Safe Haven (Identifiable Data Handling Solution)** – Will the personal identifiable data collected and processed as part of this research be stored in the UCL Data Safe Haven (mainly used by SLMS divisions, institutes and departments)?
Yes ☐ No ☒

f. How long will the data and records be kept for and in what format?
The data will be kept for a minimum of 10 years in line with UCL guidelines

Will personal data be processed or be sent outside the European Economic Area? (If yes, please confirm that there are adequate levels of protections in compliance with GDPR and state what these arrangements are)
No

Will data be archived for use by other researchers? (If yes, please provide details.)
No

g. If personal data is used as part of your project, describe what measures you have in place to ensure that the data is only used for the research purpose e.g. pseudonymisation and short retention period of data'.
Personal data will be anonymised and pseudonym will be used in the reporting of any data at an individual level

** Give further details in **Section 8 Ethical Issues***

Section 8 – Ethical Issues

Please state clearly the ethical issues which may arise in the course of this research and how will they be addressed.

All issues that may apply should be addressed. Some examples are given below, further information can be found in the guidelines. *Minimum 150 words required.*

- Methods
- Sampling
- Recruitment
- Gatekeepers
- Informed consent
- Potentially vulnerable participants
- Safeguarding/child protection
- Sensitive topics
- International research
- Risks to participants and/or researchers
- Confidentiality/Anonymity
- Disclosures/limits to confidentiality
- Data storage and security both during and after the research (including transfer, sharing, encryption, protection)
- Reporting
- Dissemination and use of findings

Consent

Information sheet will be sent initially to schools, sixth colleges and FE colleges, which will act as gatekeeper.

An information sheet about the study will be provided to participants at the beginning of the online questionnaire and participants will be required to give their consent to participate in the study before proceeding to complete the questionnaire.

At the end of the online questionnaire, students will be asked if they can be contacted for a follow-up interview via voice/audio/instant messaging (e.g., WhatsApp) lasting between 20 - 30 minutes and a £5 Amazon voucher will be offered for students who wish to volunteer their time to participate in the follow-up interview.

Confidentiality

Participants will be assured of confidentiality and anonymity. They will be informed that their data will be anonymised before being stored according to UCL data storage and protection guidelines. Data will only be identified through a code and not be traceable to the participant or the school. Any reporting of the data will be done on a group level.

Interview will be carried out via voice/audio/instant messaging and participants will be given the options of either using audio or video mode of recording.

Potentially vulnerable participants

- Participants will be informed through the information sheets that whilst the information that they provide will be kept confidential, they may be contacted by the researcher for any disclosures which raise safeguarding concerns.
- Schools participating in the study will be provided with information about pastoral support for students with high anxiety symptoms. They will also be provided with a summary debrief after data has been collected and analysed.
- Participants of the interview will be provided with a debrief about what anxiety is and signposted to organisations that provide mental health support to adolescents

Data storage

All data will be processed with integrity and confidentiality and in compliance with UCL data storage and protection guidelines.

Data collected from questionnaires, audio or video recordings and transcripts of the interviews will be anonymised on a secure and encrypted computer, and kept securely on the Cloud storage, which can only be accessed by the researcher. Anonymised data will be kept securely on the Cloud storage for a maximum of 10 years. The anonymised data will be available only to the immediate project research team.

Please confirm that the processing of the data is not likely to cause substantial damage or distress to an individual

Yes ☒

Section 9 – Attachments.

Please attach your information sheets and consent forms to your ethics application before requesting a Data Protection number from the UCL Data Protection office. Note that they will be unable to issue you the Data Protection number until all such documentation is received

a. Information sheets, consent forms and other materials to be used to inform potential participants about the research (List attachments below)
   Yes ☒ No ☐

   Enter text

b. Approval letter from external Research Ethics Committee Yes ☐
c. The proposal ('case for support') for the project Yes ☐
d. Full risk assessment Yes ☐

Section 10 – Declaration

I confirm that to the best of my knowledge the information in this form is correct and that this is a full description of the ethical issues that may arise in the course of this project.

I have discussed the ethical issues relating to my research with my supervisor.
Yes ☒ No ☐

I have attended the appropriate ethics training provided by my course.
Yes ☒ No ☐

I confirm that to the best of my knowledge:

The above information is correct and that this is a full description of the ethics issues that may arise in the course of this project.

Name Wendy Lee

Date 08/09/2021

Please submit your completed ethics forms to your supervisor for review.

Notes and references

Professional code of ethics

You should read and understand relevant ethics guidelines, for example:
British Psychological Society (2018) *Code of Ethics and Conduct*
Or
British Educational Research Association (2018) *Ethical Guidelines*
Or
British Sociological Association (2017) *Statement of Ethical Practice*
Please see the respective websites for these or later versions; direct links to the latest versions are available on the Institute of Education Research Ethics website.

Disclosure and Barring Service checks

If you are planning to carry out research in regulated Education environments such as Schools, or if your research will bring you into contact with children and young people (under the age of 18), you will need to have a Disclosure and Barring Service (DBS) CHECK, before you start. The DBS was previously known as the Criminal Records Bureau (CRB). If you do not already hold a current DBS check, and have not registered with the DBS update service, you will need to obtain one through at IOE.

Ensure that you apply for the DBS check in plenty of time as will take around 4 weeks, though can take longer depending on the circumstances.

Further references

Robson, Colin (2011). *Real world research: a resource for social scientists and practitioner researchers* (3rd edition). Oxford: Blackwell.
This text has a helpful section on ethical considerations.

Alderson, P. and Morrow, V. (2011) *The Ethics of Research with Children and Young People: A Practical Handbook.* London: Sage.
This text has useful suggestions if you are conducting research with children and young people.

Wiles, R. (2013) What are Qualitative Research Ethics? Bloomsbury.
A useful and short text covering areas including informed consent, approaches to research ethics including examples of ethical dilemmas.

Departmental Use

If a project raises particularly challenging ethics issues, or a more detailed review would be appropriate, the supervisor must refer the application to the Research Development Administrator via email so that it can be submitted to the IOE Research Ethics Committee for consideration. A departmental research ethics coordinator or representative can advise you, either to support your review process, or help decide whether an application should be referred to the REC. If unsure please refer to the guidelines explaining when to refer the ethics application to the IOE Research Ethics Committee, posted on the committee's website.

Student name: Wendy Lee

Student department: Psychology and Human Development

Course: DEdPsy

Project Title: The role of emotion beliefs in adolescent mental health and well-being

Reviewer 1

Supervisor/first reviewer name: Matt Somerville

Do you foresee any ethical difficulties with this research?

No

Supervisor/first reviewer signature:

Date: 10.09.21

Doctoral student ethics application form Version 2.1
Last updated 02/12/20

Reviewer 2

Second reviewer name: Jeremy Monsen

Do you foresee any ethical difficulties with this research?

No

Second reviewer signature: [redacted]

Date: 13.9.2021

Decision on behalf of reviewers

Approved ☐

Approved subject to the following additional measures ☐

Not approved for the reasons given below ☐

Referred to the REC for review ☐

Points to be noted by other reviewers and in report to REC:

Comments from reviewers for the applicant:

Once it is approved by both reviewers, students should submit their ethics application form to the Centre for Doctoral Education team: IOE.CDE@ucl.ac.uk.

Appendix 2: Email inviting schools to participate in the study

Dear Mr X

As you are probably aware, anxiety in adolescents has increased significantly since the first Covid lockdown in 2020 (up to 35% according to ONS). I am carrying out a study that examines anxiety in 16- to 18-year-olds as part of my Doctorate in Educational and Child Psychology at the UCL Institute of Education and was wondering if your college would be interested in participating?

What's involved

- We will invite all your college pupils aged 16-18 to complete an online questionnaire (10 mins)
- A sub-group of pupils will be invited to a follow-up interview (20 – 30 mins) with the researcher
- The study should involve very little staff time or coordination from the school

Benefits to your school

- We will share findings from the study to inform more targeted interventions for supporting the mental health and well-being of your pupils.

Please let me know if this sounds like something your college would be interested in participating in, or if you would like further information about the study. I am hoping to begin data collection in London this term.

Kind regards,
Wendy

Wendy Lee
MA Cantab, MEd Psychology and Education (Camb)

Trainee Educational Psychologist
UCL Institute of Education

Appendix 3: Teacher information sheet

Institute of Education

UCL

Teacher Information Sheet

Title of the Study:	The role of emotion beliefs in adolescent mental health and well-being
Date of the Study:	August 2021 – July 2022

Aims of the study:

The way that young people think about anxiety and deal with their emotions can affect how they cope with anxiety.

The aim of this research is to better understand how 16- to 18-year-olds think about anxiety and deal with their emotions, so that we can find more ways to help teenagers cope with anxiety.

Researcher of this study: Wendy Lee, is in the final year of completing her Doctorate in Professional Educational, Child and Adolescent Psychology at the UCL Institute of Education. Wendy has enhanced DBS check to work with children and young people. She is supervised by Matt Somerville, Lecturer in Psychology at the UCL Institute of Education **and** Jeremy Monsen, Principal Educational & Child Psychologist at the Westminster and Kensington & Chelsea Educational Psychology Consultation Service

What's involved:

1. We would like you to ask your form pupils to complete a 10-minute questionnaire on a voluntary basis using this link https://uclioe.eu.qualtrics.com/jfe/form/SV_cOAZoJiBG8c2nRQ

2. We will invite some participants who have completed the questionnaire to take part on a voluntary basis in a short follow-up online interview, which will last 20 - 30 minutes, over an audio/ video/ instant messaging call. A £5 voucher will be offered to interview participants.

3. At the end of completing the questionnaire, your pupils will be advised that:
    - they can get more help and advice about managing anxiety by:
        - talking to an adult that they trust, like their parents/ carers or a teacher at school
        - texting the YoungMinds Crisis Messenger for free 24/7 support across the UK if they (or their friend) are experiencing a mental health crisis and need urgent help.
            - text YM to 85258.
            - All texts are answered by trained volunteers, with support from experienced clinical supervisors.
            - Texts are free from EE, O2, Vodafone, 3, Virgin Mobile, BT Mobile, GiffGaff, Tesco Mobile and Telecom Plus.

Other information:

As your pupils are over the age of 16, we will seek consent for participation directly from them. Please be assured that participation of your pupils is entirely voluntary. They can opt out of any questions that they do not want to answer in the questionnaire and interview. Should they wish to take part in a follow-up interview, they will have the option of doing this over audio or video calls.

All information collected from the pupils during the course of the project will be kept strictly confidential. All the data will be anonymised (ie. not be traceable to your pupil or your school) and will be kept securely on UCL server for a maximum of 10 years.

This project has been reviewed and approved by the UCL IOE Research Ethics Committee.

Contact details of the researcher:

Wendy Lee (wendy.lee.14@ucl.ac.uk)

Appendix 4: Letter to parents/ carers

September 2021

Dear parents/ carers,

I am writing to let you know about my doctoral research project, which your child has been invited to take part in (on a voluntary basis) during this term.

Title of the study: The role of emotion beliefs in adolescent mental health and well being

Aims of the study:

The way that young people think about anxiety and deal with their emotions can affect how they cope with anxiety. The aim of this research is to better understand how 16- to 18-year-olds think about anxiety and deal with their emotions, so that we can find more ways to help teenagers cope with anxiety.

Researcher of this study: Wendy Lee

Wendy is in the final year of completing her Doctorate in Professional Educational, Child and Adolescent Psychology at the UCL Institute of Education. She has enhanced DBS check to work with children and young people. Wendy is supervised by Matt Somerville, Lecturer in Psychology at the UCL Institute of Education **and** Jeremy Monsen, Principal Educational & Child Psychologist at the Westminster and Kensington & Chelsea Educational Psychology Consultation Service

What's involved:

1. Your child will be invited to complete a 10-minute questionnaire
2. We will invite some participants who have completed the questionnaire to take part in a follow-up online interview, which will last from 20 - 30 minutes over an audio/ video/ instant messaging call

If you have questions about the research, please do not hesitate to contact me by email: wendy.lee.14@ucl.ac.uk.

Yours faithfully,

Wendy Lee

Appendix 5: Participant information sheet

Institute of Education

UCL

Participant Information Sheet

Title of the Study: The role of emotion beliefs in adolescent mental health and well-being

Date of the Study: August 2021 – July 2022

Aims of the study:

The way that young people think about anxiety and deal with their emotions can affect how they cope with anxiety.

The aim of this research is to better understand how 16- to 18-year-olds think about anxiety and deal with their emotions, so that we can find more ways to help teenagers cope with anxiety.

Researcher of this study: Wendy Lee, is in the final year of completing her Doctorate in Professional Educational, Child and Adolescent Psychology at the UCL Institute of Education. Wendy has enhanced DBS check to work with children and young people. She will be supervised by Matt Somerville, Lecturer in Psychology at the UCL Institute of Education **and** Jeremy Monsen, Principal Educational & Child Psychologist at the Westminster and Kensington & Chelsea Educational Psychology Consultation Service

Your participation:

- Completion of an online questionnaire
- Potential participation in a follow-up in-depth interview with the researcher

Please be assured that your participation is entirely voluntary. Refusal or withdrawal will involve no penalty or loss, now or in the future. Should you wish to take part in a follow-up interview, you will have the option of doing this over audio or video calls.

Confidentiality:

All information collected from you during the course of the project will be kept strictly confidential.

Data protection and usage:

All data will be processed with integrity and confidentiality and in compliance with General Data Protection Regulation (GDPR).

Data collected from questionnaires, telephone interviews and transcripts of the interviews will be anonymised on a secure and encrypted computer, which can only be accessed by Wendy Lee. Anonymised data (ie, data which can only be identified through a code and not be traceable to you or your school) will be kept securely on UCL server for a maximum of 10 years. The anonymised data will be available only to the immediate project research team and the Educational Psychology Services through which potential participants of the research has been identified.

Audio recordings may be listened by Wendy Lee and her supervisors, and will be kept securely on the UCL servers, which can only be accessed by Wendy Lee. Audio recordings will be kept for a

maximum of 10 years. You can request access to any data collected from you. Data collected during this project will be used to inform future research of the researcher.

Report and dissemination:

Findings from this project will be written up to form as a part of the researcher's doctoral thesis. You can request access to a summary of the research findings at the end of the project. Presentation of findings in the summary and full reports of the study will be anonymised and not be traceable to you or your school.

Contact details: Wendy Lee (wendy.lee.14@ucl.ac.uk)

Data Protection Privacy Notice

The data controller for this project will be University College London (UCL). The UCL Data Protection Office provides oversight of UCL activities involving the processing of personal data. The UCL's Data Protection Officer can also be contacted at data-protection@ucl.ac.uk. This information is explained fully in the UCL Research Participant Privacy Notice, which you can access here: https://www.ucl.ac.uk/legal-services/privacy/ucl-general-research-participant-privacy-notice

This project has been reviewed and approved by the UCL IOE Research Ethics Committee. If you have any questions about the above research project, wish to exercise your rights as a research participant, or wish to make a complaint, please send an email with details to the UCL Institute of Education Research Ethics Committee on ioe.researchethics@ucl.ac.uk so that we can look into the issue and respond to you. You can also contact the UCL Institute of Education Research Ethics Committee by telephoning +44 (0)20 7911 5449

UCL General Research Participant Privacy Notice | Legal Services - UCL - London's Global University

UCL's approach to research and personal data. UCL aims to conduct research in accordance with the highest standards of research integrity. Our research is underpinned by policies and procedures designed to help ensure we comply with regulations and legislation that govern the conduct of research, including data protection law. www.ucl.ac.uk

Appendix 6: Online consent form and survey

English

Welcome to this research study!

The aim of this research is to better understand how 16- to 18-year-olds think about anxiety and deal with their emotions, so that we can find more ways to help teenagers cope with anxiety.

It will take 10 - 15 minutes to complete the questionnaire of this study, after you have consented to participate.

Researcher of this study: Wendy Lee, Trainee Educational Psychologist at the UCL Institute of Education

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Please click and read the Participant information sheet.pdf

By clicking the button below, you acknowledge:

- You have read and understood the Participant Information Sheet.
- You voluntarily agree to participate in the project.
- You understand you can withdraw at any time without giving reasons and that you will not be penalised for withdrawing nor will you be questioned on why you have withdrawn.
- The procedures regarding confidentiality have been clearly explained to you.
- The procedures regarding data protection (anonymisation, sharing and storage) have been clearly explained to you.
- The reporting and dissemination of data have been explained to you.
- The future use of data has been explained to you.
- You have been given the opportunity to ask questions about the project and your participation.

I consent, begin the study

I do not consent, I do not wish to participate

English

To what extent do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	I don't want to answer this
If I want to, I can change the emotions that I have	○	○	○	○	○	○	○	○
I can learn to control my emotions	○	○	○	○	○	○	○	○
The truth is, I have very little control over my emotions	○	○	○	○	○	○	○	○
No matter how hard I try, I can't really change the emotions that I have	○	○	○	○	○	○	○	○

<< >>

English

To what extent do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	I don't want to answer this
When I want to feel happier, I think about something different	○	○	○	○	○	○	○	○
I keep my feelings to myself	○	○	○	○	○	○	○	○
When I want to feel less bad (e.g. sad, angry, worried), I think about something different	○	○	○	○	○	○	○	○
When I am feeling happy, I'm careful not to show it	○	○	○	○	○	○	○	○
When I am worried about something, I make myself think about it in a way that helps me feel better	○	○	○	○	○	○	○	○

English

To what extent do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	I don't want to answer this
I control my feelings by not showing them	○	○	○	○	○	○	○	○
When I want to feel happier about something, I change the way I'm thinking about it	○	○	○	○	○	○	○	○
I control my feelings about things by changing the way I think about them	○	○	○	○	○	○	○	○
When I'm feeling bad (e.g. sad, angry, worried), I am careful not to show it	○	○	○	○	○	○	○	○
When I want to feel less bad (e.g. sad, angry, worried), I change the way I'm thinking about it	○	○	○	○	○	○	○	○

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English

To what extent do you agree or disagree with the following statements?

	Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree	I don't want to answer this
I have a certain amount of anxiety and I really cannot do much to change it	○	○	○	○	○	○	○	○
My anxiety is something about me that I cannot change very much	○	○	○	○	○	○	○	○
To be honest, I cannot really change how anxious I am	○	○	○	○	○	○	○	○
No matter how hard I try, I can't really change the level of anxiety that I have	○	○	○	○	○	○	○	○

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English

Please tick the word that shows how often each of these things happen to you. There are no right or wrong answers.

	Never	Sometimes	Often	Always	I don't want to answer this
I worry about things	○	○	○	○	○
When I have a problem, I get a funny feeling in my stomach	○	○	○	○	○
I feel afraid	○	○	○	○	○
When I have a problem, my heart beats really fast	○	○	○	○	○
I worry that something bad will happen to me	○	○	○	○	○
When I have a problem, I feel shaky	○	○	○	○	○

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English

Below are some statements about feelings and thoughts. Please tick the box that best describes your experience of each over the last 2 weeks

	None of the time	Rarely	Some of the time	Often	All of the time	I don't want to answer this
I've been feeling useful	○	○	○	○	○	○
I've been dealing with problems well	○	○	○	○	○	○
I've been thinking clearly	○	○	○	○	○	○
I've been able to make up my own minds about things	○	○	○	○	○	○
I've been optimistic about the future	○	○	○	○	○	○
I've been feeling relaxed	○	○	○	○	○	○
I've been feeling close to other people	○	○	○	○	○	○

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English

Please provide the following details:

	Click to write your response
Your first name	
Your surname	
Name of your school	
Your gender	
Your date of birth	
Your age	
Have you ever received support from the Children and Adolescent Mental Health Service (CAMHS)	

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English

Please provide your contact details if you would be interested to take part in a short follow-up interview lasting 20 - 30 minutes over a voice/ audio/ instant messaging call. A £5 voucher will be offered to interview participants.

	Click to write your response
Your email address	
Your mobile number	

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English

Thank you for kindly taking the time to complete this survey.

You can get more help and advice about managing anxiety by:
- talking to an adult that you trust, like your parents/ carers or a teacher at school
- texting the YoungMinds Crisis Messenger for free 24/7 support across the UK if you (or your friends) are experiencing a mental health crisis and need urgent help.
    *text YM to 85258.
    *All texts are answered by trained volunteers, with support from experienced clinical supervisors.
    *Texts are free from EE, O2, Vodafone, 3, Virgin Mobile, BT Mobile, GiffGaff, Tesco Mobile and Telecom Plus.

If you have any questions about this research study, please contact Wendy Lee: wendy.lee.14@ucl.ac.uk

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Appendix 7: Interview guide

Research Questions

- ***How do anxiety beliefs vary across features and contexts of anxiety?***

Building rapport

- What subjects do you do for A-levels?
- What are your plans after sixth form?

Confirming consent

- Thank you for agreeing to take part in this interview. Purpose of the research is to find more ways to help teenagers cope with anxiety by getting a better understanding of how 16- to 18-year-olds think about anxiety and deal with their emotions
- This interview should take approximately 20-30 mins. Will that be ok?
  - The aim of this interview is to find out a bit more about your beliefs about emotion and what you think anxiety is. There is no right or wrong answer
  - The information you share will be kept confidential and are provided on a voluntary basis. However, if you share anything that I feel worried about, we will need to discuss how to share that with the school. Is that ok?
  - You can opt out of any questions that you don't want to answer, and please feel free to pause or stop the interview at any point.

Also, just want to check that you would be happy for me to record this audio interview, which will be transcribed and anonymised, so the information that you provide will not be traceable back to you or your school. Are you happy to go ahead with this interview?

Section 1: Warm-up questions

1.1. How is anxiety similar to other emotions that you have?

1.2. How is anxiety different from other emotions that you have?

1.3. Is anxiety good or bad? Why?

1.4. What does anxiety mean for you?

1.5. I'm going to give you some quotes from some 18-year-olds about anxiety and ask you what you think about them:

- 'Anxiety is like irrational and like overwhelming worries and fears. And to the point where it feels like physical.' How much do you agree or disagree with this statement? Why?
- 'Anxiety is like a diagnosis or a condition' How much do you agree or disagree with this statement? Why?

2. Section 2: Research question

2.1. Do you get anxious? If so, what do you get anxious about?

2.2. Tell me a time when you've been anxious…

Prompts:

- How long did it last?
- How intense was it?
- Where were you?
- What helped?
- What made it worse?
- Can you remember how you were feeling at the time? (Prompts: physiological state and emotional state e.g., tired, stressed, lonely)
- What were your coping mechanisms/ how did you cope with it?

2.3. Situations

- Can you think of some other situations when you were more able to change your anxiety?
- Can you think of some other situations when you were less able to change your anxiety?
- How are they different (Prompts: how you were feeling at the time, your coping mechanisms)?

2.4. Times

- Can you think of times when you were more able to change your anxiety?
- Can you think of times when you were less able to change your anxiety?
- How are they different (Prompts: how you were feeling at the time, your coping mechanisms)?

2.5. Settings

- Is there any difference in how well you can change anxiety when you are with different people? (Prompts: at home with your family, at school with your teachers and with your friends?) What are the differences? Why?

Debrief

Thank you so much for taking the time to do this interview with me. It was really interesting to hear about what you think.

Although anxiety can sometimes be referred to as a clinical disorder, it is a normal emotion response which has four components: feeling (e.g., anxious, fear, worry), thinking (e.g., I am worried about getting Covid), behaviour (e.g., I won't use any public transport) and physiological response (e.g., heart beating really fast).

It's like happiness, which also has four components: feeling (e.g., happy, excited), thinking (e.g., I am excited about seeing my friends), behaviour (e.g., I will go out to see my friends), and physiological response (e.g., heart beating faster from excitement).

However, when the level and frequency of anxiety is too high and affecting our ability to function properly (e.g., not being able to go to sleep, or take exams), then it becomes a problem that needs to be managed.

You can get more help and advice about managing anxiety by:

- talking to your parents or your teachers at school
- texting the YoungMinds Crisis Messenger for free 24/7 support across the UK if you are experiencing a mental health crisis and need urgent help.
    - text YM to 85258.
    - All texts are answered by trained volunteers, with support from experienced clinical supervisors.
    - Texts are free from EE, O2, Vodafone, 3, Virgin Mobile, BT Mobile, GiffGaff, Tesco Mobile and Telecom Plus.

Do you have any questions for me?

Appendix 8: Supplementary analyses

Interaction effect of gender on the relationship between emotion mindsets, and anxiety symptoms and psychological well-being was examined using the Hayes (2018) *Process* SPSS macros. The means of the predictor variables, namely emotion controllability and anxiety malleability beliefs, were centred by subtracting the mean of each variable from the score of each participant (Tabachnick & Fidell, 2014) and the new centred variables were used.

The moderation analyses found that gender did not moderate the relationship between anxiety malleability beliefs and anxiety symptoms (β = .039*, t*(293) = -.92, *p* = .36), nor the relationship between emotion controllability beliefs and anxiety symptoms (β = .053*, t*(293) = .02, *p* = .98). Similarly the moderation effect of gender on the relationships between anxiety malleability beliefs and psychological well-being (β = .041*, t*(293) = .44, *p* = .66), and between emotion controllability beliefs and psychological well-being (β = .054*, t*(293) = -.54, *p* = .59), The above results showed that the relationships between emotion mindsets and anxiety and well-being outcomes were not significantly different between boys and girls.

Appendix 9: Examples of codes applied to extracts of data

(Interview with S1)

S3: With this particular instance.. I mean, I guess you could call it a coping mechanism to try and ignore the problem and forget about it because when I did that, then I didn't feel bad, but that wasn't really a productive coping mechanism er..other than that.. I'm not too sure..I think just after sending the first one, it was fine to send the second one..erm… you know just sort of..yeah and..it felt. I don't know..I think it's just getting over the initial hurdle was tough. But beyond talking to people and trying to make myself see that there's Actually nothing to be afraid of, I'm not sure I had any other productive coping mechanisms.

Researcher: Yeah. But I guess you also recognize that once you've done it once, it's easier to do it the next time. So and so can you think of some other situations, you know, where you are maybe more able to change your anxiety?

S3: Mmm..I'm not sure, I think it is. I think that's difficult to say, but removing myself from situations where it is bad. Like when there's a lot of other people present.. I was, I was meant to work in this room that we have called the silent workroom or something, I think that's what it's called. And I knew that sort of sitting in this room filled with other students in dead silence would just make me feel nervous that people were sort of watching me, even though that doesn't make any sense. So I just spoke to the school and I was like, Hey, can I please not do this, and then I actually get myself removed from it.

Researcher: That's really amazing that you have good self awareness about, you know, places where, you know, you might feel more anxious, and the environment, how that might make you feel more anxious. Are there situations when you feel..are there kind of setting or places that you feel less anxious

S3: Erm…<blow air>...places where I'm… comforting, sort of lighting, furniture, and that sort of thing helps, I guess, being with the people who I do trust is always important, regardless of setting. And if it's a place that I know well, then I think that also helps. but I usually do like, I mean, I don't really feel a lot of anxiety if I'm just able to go somewhere completely hidden. I mean that sort of things does help sometimes..

Researcher: Sorry, say that again. So you don't feel anxiety, when you go into a place that is…

S3: Where I feel hiddened

Researcher: Hidden? Oh!.you feel like, you feel less anxious when you feel like you're hiddened in that environment. So… give me example, perhaps