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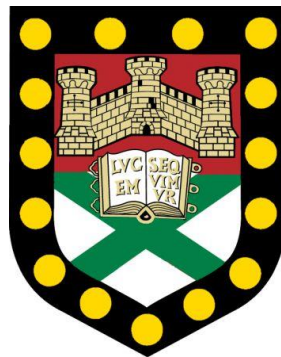# An exploration of teacher and educational psychologists' support for student test-anxiety in the context of a global pandemic.

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to the University of Exeter as a thesis for the degree of

Doctor of Educational, Child, and Community Psychology

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This thesis is available for library use on the understanding that it is copyright material and that no quotation from the thesis may be published without proper acknowledgement.

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Abstract

Background: Mental health difficulties in children and adolescents are on the rise, with the most common difficulties starting in adolescence, for example, generalised anxiety. Examinations cause a significant amount of stress in adolescents within high-pressured academic environments. Test-anxiety is experienced by 15-22% of students and can cause several difficulties in the build up to high-stake examinations, including poor examination performance and maladaptive cognition. Therefore, understanding the role of educational professionals in supporting students with test-anxiety is essential to improving children and young people's wellbeing in schools.

Aims: The aims of this thesis were firstly, to explore how teachers support student test-anxiety based on the literature available prior to the covid-19 pandemic. Secondly, to explore teacher and educational psychologists' experiences of supporting test-anxiety in the context of a global pandemic.

Phase 1: A systematic literature review was carried out to explore how teachers support students with test-anxiety in schools. 12 studies were included and analysed using framework synthesis. Findings suggest that teacher support for test-anxiety can be cognitive, behavioural, emotional, social, motivational, and environmental. It was recognised that teachers have a role in supporting students across multiple levels, for example, practical supports, motivational supports, study skills, and emotional support. The most common role identified was at a social level which included how teachers develop relationships with students and communicate effectively.

Phase 2: Interviews were carried out with seven teachers and seven educational psychologists. Interview data were analysed using reflexive thematic analysis. Findings suggest that, firstly, teachers provided support during covid-19 that included identifying student need, and academic and emotional support. In addition to this, teachers adapted to a new way of working and experienced a lack of control during covid-19. Reference was also made to the role of parents, peers, and tutors in supporting test-anxiety. Secondly, teachers suggested that support for test-anxiety could be improved in the classroom following covid-19 by increasing teacher knowledge, increasing teacher time and capacity, and considering change within school environments, and the political and educational contexts. Multiple barriers were identified in the context of the pandemic which must be accounted for to improve support in the future. Thirdly, prior to covid-19, educational psychologists used

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approaches to support schools with test-anxiety using systemic approaches and approaches specific to the EP role. Fourthly, there are multiple challenges that educational psychologists have experienced when working with schools, such as time and capacity issues, that existed prior to covid-19, as well as a lack of experience, and adjustments to remote working and uncertainty in the covid-19 context. Additionally, there are new priorities in schools currently due to gaps in children and young people's learning, the necessity to plan ahead, and increased levels of generalised anxiety during covid-19.

Conclusion: The findings from this research add to the knowledge base of test-anxiety and improve our understanding of the role of educational professionals in supporting test-anxiety in the United Kingdom. The current research extends our knowledge of test-anxiety to a unique context and highlights the challenges faced in schools during covid-19 for a specific cohort of children and young people, teachers, and educational psychologists. The implications of this research and educational psychology practice are considered, and suggestions for future research are discussed.

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Table of Contents

List of Abbreviations

AEP	Association of Educational Psychologists
APA	American Psychological Association
ASC	Autistic spectrum condition
BEAT	Beating examination anxiety together
BERA	British Educational Research Association
BPS	British Psychological Society
CBT	Cognitive behavioural therapy
CYP	Children and young people
DECP	Division of Educational and Child Psychology
DfE	Department for Education
DSM-5	Diagnostic and statistical manual of mental disorders
EEF	Education Endowment Foundation
ELSA	Emotional literacy support assistant
EP	Educational psychologist
EPS	Educational Psychology Service
ERIC	Education Resources Information Centre
GCSE	General certificate of secondary education
HCPC	Health Care and Professions Council
IFF	Interactive factors framework
LA	Local authority
PRISMA	Preferred reporting items for systematic reviews and meta-analyses
PSHE	Personal, social, health and education curriculum
PHE	Public Health England
RTA	Revised test anxiety scale
SAT	Standard assessment task
SEMH	Social, emotional and mental health
SEN	Special educational needs
SENCO	Special educational needs coordinator
SFBT	Solution focussed brief therapy
SLR	Systematic literature review
SLT	Senior leadership team
STEPs	Steps to success
TA	Teaching assistant
TAI	Test anxiety inventory
TEP	Trainee educational psychologist
TPM	Teachers as positive motivators
UK	United Kingdom
USA	United States of America
WHO	World Health Organisation
WoE	Weight of evidence

Chapter 1: Introduction

The purpose of this chapter is to give the reader an understanding of the current research aims and the context in which this thesis was carried out. Firstly, I will give details of my position as a researcher. I will then address the rationale for the current research. This will be followed by a reflection on the changes made to this thesis considering the current context. Finally, I will state the overall aims and research questions for phase one and two.

1.1   Professional Background and Relevant Experience

It is important to reflect on how my personal experiences may have had an influence on my research. I believe I have been able to maintain some distance between my personal views and the current study, yet it is important to note the subjectivity of qualitative research (Noble & Smith, 2015).

Family, friends, and the people I have crossed paths with throughout my professional and personal life have influenced my thoughts, feelings, and assumptions about the world. I am a trainee educational psychologist (TEP) studying for a Doctorate in Educational, Child, and Community Psychology at the University of Exeter. As part of my training, I am currently on placement with a local authority (LA) in the South West of England. Although I am in the early stages of my career as an educational psychologist (EP), I believe that my experiences to date have provided me with resilience and passion to promote systemic change for children and young people (CYP) in the challenges that they are presented with today.

My interest in social, emotional and mental health (SEMH) began whilst I was on a placement year during my undergraduate degree. I worked in a setting for children with SEMH needs alongside admirable teachers who gave everything to their teaching yet were challenged daily by visible aggression and defiance from the children. This made me want to understand what was really happening for those children, and how we could support them so they could succeed in life. In addition to this, they experienced struggles which arose through the wider education system, including lack of staff and resources. It was at this time that I decided to begin my journey to train as an educational psychologist.

Within my role as an assistant psychologist in a private mental health service, I became more aware of the challenges that mental health difficulties presented to children and adolescents in the modern world. This experience also triggered reflection on the ethical implications of

working in a privately funded service where mental health support was not accessible to all. I had never worked in such a challenging environment and this helped me to develop my knowledge and understanding of mental health difficulties through interactions with clients and professionals from a variety of backgrounds. At this time, government documentation on the transformation of mental health within schools (Department for Education (DfE), 2017) was published and I questioned the role psychology had to play in early intervention and prevention to support CYP and teachers to develop positive mental health in schools.

I have reflected on the struggles people close to me have experienced with mental health difficulties. This has driven my passion to support positive mental health further, with a particular focus on CYP and the need to work proactively and systemically with those who are affected by mental health difficulties within a family network. Reflecting on my childhood experiences, I grew up in a middle-class family in England that provided me with a supportive and stable environment. It has been shown in the literature that strong parental relationships and positive parental role models have a positive impact on mental health trajectories (Shore et al., 2018; Tellis-James & Fox, 2016). Yet, research also tells us that there are multiple risk factors for mental health (Wise, 2000), such as adverse life events, exposure to violence (Mohammad et al., 2015; Porche et al., 2016), poverty and low socio-economic status (Adkins et al., 2009; Goosby, 2007; Kuruvilla & Jacob, 2007; Strohschein, 2005). More recently, events such as pandemics have also been found to increase mental health risks for children due to increased pressure and stress on families, reduced access to support and social distancing measures (Fegert et al., 2020). Thus, I am passionate to make a difference for those families today.

Within this research, I believed that teachers and EPs had a role in supporting students with test-anxiety, but my view about what this looked like and the different forms of support that were beneficial to students was not decided. My position is based on reading of the relevant literature around the current topic, and my professional experiences which have highlighted the significance of mental health difficulties in schools and the role of educational professionals. As such, addressing test-anxiety in students by focusing on the systems around CYP, such as teachers and EPs, enabled me to see the potential for change and improved, targeted support for test-anxiety in schools.

1.2 Rationale for Engagement

The topic of mental health is large and widely discussed in the literature (Deighton et al., 2019; DfE, 2017; Olfson et al., 2014). I felt the scope of this small-scale research project would not be sufficient nor do justice to the topic of mental health. Therefore, I shifted my focus towards anxiety, as one of the most prevalent mental health difficulties for CYP (Cartwright-Hatton et al., 2006; Kessler et al., 2005; Whiteford et al., 2013). More specifically, the prompt for choosing this topic came from reading an article titled 'We should just be told to try our best' (Putwain & Nicholson, 2019). This considered how key adults in CYP's lives influence feelings of test-anxiety. This inspired me as a topic that was fairly new in the United Kingdom (UK). Generalised anxiety in children has been shown to be comorbid with other types of anxiety, such as separation anxiety (Higa-McMillan et al., 2016; Verduin & Kendall, 2003). Indeed, despite little research there is confirmation that generalised anxiety is also comorbid with test-anxiety (Beidel & Turner, 1988; Putwain et al., 2021). Whilst there is an increasing amount of research on test-anxiety and the impact this has on CYP, it seems that little is known about teacher support (see 2.1 for a wider discussion). I reflected on the systems model developed by Bronfenbrenner (1979) and the strong influences the microsystem, including teachers, can have on CYP's lives, such as experiences of test-anxiety. Thus, I felt this was a worthwhile topic, aiming to explore in more depth how teachers can support students with test-anxiety.

Additionally, little is known about the role of the EP and test-anxiety support. In my role as a TEP, there has been little opportunity to support schools with test-anxiety, despite its prevalence (Putwain & Daly, 2014). Therefore, it was important to further understand the role of the EP in this context. Previous research has stated that preventative work plays an important role in reducing test-anxiety and ensuring that CYP's performance is reflective of their ability (von der Embse et al., 2013). This proactive and preventative approach to promote psychological wellbeing is clearly stated as part of the EP role in the standards of proficiency for practitioner psychologists (HCPC, 2015, p.25). Through EP interviews in this research, it is hoped that further clarification will be given to how EPs view their role and knowledge of test-anxiety.

There is no current research on teacher support or the EP role in supporting schools with test-anxiety. Furthermore, no research to date has been carried out during a pandemic on this topic. Thus, this research is significant in that it has enabled me to contribute to the topic of

test-anxiety in a specific context by increasing understanding and knowledge of teacher and EP support for test-anxiety in schools.

1.3   Reflection on Adaptations in the Current Context

Initially, my aim for this research project was to explore student and teacher views and deliver and evaluate an intervention informed by these views in phase two. I had recruited schools and was in the process of gaining consent when the covid-19 pandemic began to impact schools and school closures were initiated. At this time, the original schools I had recruited pulled out and I reflected on how to change my research considering the context of the pandemic and the timing of my research.

In terms of the research design, I adapted phase one of the research to carry out a systematic literature review. This meant that I was able to carry out phase one in the summer of 2020 without the need to recruit participants in an uncertain and unpredictable time and context due to covid-19. At this time, I also re-applied for ethical approval with the university to reflect the adaptations made across the phases.

Whilst I was planning the adaptations to my research there was a large amount of uncertainty and concern for the general certificate of secondary education (GCSE) and A level examinations in the UK and how they might be approached (Coughlan, 2020a, 2020b). The timing of my research meant that students were under additional pressures due to the covid-19 pandemic, school closures, and uncertainty about their examinations. Therefore, I felt it was not appropriate to interview students about examination-anxiety in 2020 when it was still unknown if examinations were going ahead. This was a difficult decision as previous literature searches indicated that the exploration of teacher and student views together were missing in the literature. On reflection, this was the right decision as examinations for 2020 were cancelled and there have been multiple discussions since about how CYP have coped and increased concerns about mental health difficulties throughout the covid-19 pandemic in general (Bhopal & Myers, 2020; Brooks et al., 2020; Fegert et al., 2020; Joseph, 2020; Orgilés et al., 2020; Rettie & Daniels, 2020; Sakka et al., 2020; Young Minds, 2021).

After careful consideration and discussions in research tutorials, I decided to carry out a systematic literature review in phase one and an empirical study in phase two. The aims of this research will be presented next.

1.4   Aims of the Research

The overall aim of this research was to explore teacher and educational psychologist support for students with test-anxiety in the context of a global pandemic. The systematic literature review reported in phase one aimed to understand what the current literature (prior to the covid-19 pandemic) tells us about how teachers support students with test-anxiety. This was achieved through identifying and synthesising the literature available on this topic which could inform phase two of the research. This aim was explored through the following review question: How do teachers support student test-anxiety in schools?

In phase two, the empirical study had two aims; firstly, to explore teacher experiences of supporting students with test-anxiety in the context of a global pandemic, and secondly, to explore educational psychologists' experiences of supporting test-anxiety in schools and how these experiences can be used to inform support for test-anxiety following a pandemic. These aims were explored through the following research questions:

1. What are teacher experiences of supporting students with test-anxiety during a pandemic?
2. What are teacher views of how test-anxiety support could be improved following a pandemic?
3. How can educational psychologists' previous experiences of supporting schools with test-anxiety inform future support for test-anxiety following a pandemic?
4. What are educational psychologists' views of the barriers to supporting schools with test-anxiety following a pandemic?

1.5   Summary of Chapters

This section will explain the structure of the chapters in this two-phase thesis. The next chapter (2) is phase one of the research: a systematic literature review. This chapter includes an introduction and overview of the current literature on test-anxiety with reference to the terminology used throughout the thesis and a discussion of the current context and support for test-anxiety in schools. Next, there will be a detailed explanation of the methods which will include an explanation of the search strategy, inclusion and exclusion criteria, and two staged screening and selection process used to identify the included studies. This will be followed by a description of the process for data extraction, and the methods used for quality assessment

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and synthesis of the data. The results section of phase one will include an overview of the included studies characteristics, the quality assessment results, and finally present the results using framework synthesis. This chapter will finish with a discussion of the strengths and limitations of phase one and a consideration of the implications for EPs.

Chapter 3 is phase 2 of the current research: an empirical study exploring teacher and EP experiences of supporting test-anxiety in the context of a global pandemic. This chapter will begin by linking phase one and phase two. I will then introduce some of the current literature on this topic with reference to the current context. Next, the methodology of phase two will include an explanation of my philosophical assumptions, the sampling procedure, data collection methods, and a description of the analysis methods chosen. This will be followed by discussion of ethical procedures considered throughout phase two. Finally, the findings of the interviews will be analysed using a thematic analysis and discussed with reference to the relevant literature.

Chapter 4 is an overall discussion of the findings from both phases of this research. Within this chapter I will bring together the findings from phase one and phase two with discussion of the findings in the context of the relevant literature. Finally, in chapter 5 I will discuss the strengths and limitations of the current research, implications for EPs, and avenues for future research.

Chapter 2: Phase One Systematic Literature Review

2.1   Introduction

2.1.1   Definitions and Terminology

Generalised Anxiety. Generalised anxiety is one of the most prevalent mental health difficulties in adolescence (Green et al., 2005; von der Embse et al., 2018) and experiences of anxiety are increasing (Collishaw, 2015). According to the diagnostic and statistical manual of mental disorders (DSM-5), generalised anxiety disorder is excessive worry about everyday issues for at least six months which cause distress or impairment, including physiological symptoms such as restlessness, irritability, and muscle tension (National Institute for Health and Care Excellence (NICE), 2021).

Generalised anxiety overlaps with other anxiety and mood related disorders suggesting that anxiety comprises of a spectrum of difficulties (Tyrer & Baldwin, 2006). It has been reported that generalised anxiety disorder has many comorbidities including depression and social anxiety (Gale & Davidson, 2007; Tyrer & Baldwin, 2006). Indeed, it has been acknowledged in the literature that generalised anxiety is comorbid with test-anxiety (Beidel & Turner, 1988; Putwain et al., 2021). Test-anxiety is not explicitly mentioned in the DSM-5. However, situational anxiety is a differential diagnosis of generalised anxiety disorder that is recognised as "controllable anxiety that is not generally associated with pathological symptoms and relates to a particular life event, such as an upcoming examination" (NICE, 2021). Thus, showing some recognition of anxiety related to test taking in the diagnostic manual.

Test-Anxiety. Up until the early 2000's there was limited research on test-anxiety in the UK (Putwain, 2007b). Therefore, I will consider and be critical of any literature published prior to this date as it may not be generalisable across differing contexts, including differences in schooling, culture, and societal expectations.

In discussion since the early 1950's, test-anxiety has been consistently described as multi-dimensional (Friedman & Bendas-Jacob, 1997; Liebert & Morris, 1967; Pourtaleb et al., 2018; Putwain et al., 2014; Putwain, 2007b; Putwain & Daly, 2013; Ringeisen & Raufelder, 2015). In the first instance, Liebert and Morris (1967) stated that test-anxiety was made up of two components: worry and emotionality. Worry is the cognitive element, referring to negative expectations about failure and its consequences; emotionality is the physiological

element, referring to high arousal of the nervous system and unpleasant affect (Friedman & Bendas-Jacob, 1997). Where there is agreement that test-anxiety is made up of multiple components, some researchers have also discussed that test-anxiety is more complex than just the cognitive and emotional elements, suggesting it is inclusive of additional elements such as behaviour (Hodapp & Benson, 1997; Putwain, 2008a; Sarason, 1984). Additionally, Rothman (2004) suggested test-anxiety included an element of self-preoccupation which involves being overly attentive to internal cognitions which, together with worry and emotionality, interfere with test preparation and performance. The current review will refer to the consistently used components of worry and emotionality within the construct of test-anxiety.

There was much discussion in the 1980's about theoretical models of test-anxiety. This includes debate in the literature about the interference and deficit models of test-anxiety (Everson et al., 1989; Kirkland & Hollandsworth, 1980). The cognitive interference model was supported by Liebert and Morris (1967). Within the model, the elements of test-anxiety, such as worry and emotionality, interfere and affect the ability to use previously learned information in an examination (Everson et al., 1989; Sarason, 1984). The deficit model suggested that test-anxiety was due to a lack of preparedness, poor knowledge and skills that are needed for examinations (Culler & Holahan, 1980; Tobias, 1985). Following this, the transactional model was introduced by Spielberger and Vagg (1995) which integrated the interference and deficit models. This was extended by Zeidner and Matthews (2005) with the self-referent executive processing model. This model of test-anxiety was described as executive processing influenced by self-belief and threat of situational factors which lead to test-anxiety (Zeidner & Matthews, 2005). Since then, newer models of test-anxiety have been introduced which include how social, educational and environmental influences are likely to influence test-anxiety (Lowe et al., 2008; Segool et al., 2014). These newer models fit with the assumptions of this review, that external environmental influences could have an impact on CYP's experiences of test-anxiety (see 2.1.3).

Within the literature there is discussion of test-anxiety occurring along a continuum where it is based on individual experience (Carsley & Heath, 2018; Howard, 2020; McDonald, 2001). Similarly to generalised anxiety, a spectrum of difficulties exist where CYP could experience no test-anxiety, high test-anxiety, and variations in between. Indeed Rothman (2004) claimed that test-anxiety is not a permanent state. Considering the DSM-5 criteria, test-anxiety may be situation specific, for example, experiencing symptoms of worry and emotionality specifically in the build up to examinations (Keogh & French, 2001). Yet Lowe et al. (2008)

suggested that test-anxiety could be a state of anxiety, such as the perceived threat prior to an examination, or the continuous worry of performance known as trait anxiety. This variability in test-anxiety across a continuum suggests that test-anxiety is complex and may be difficult to identify due to individual differences and experiences of CYP in schools.

Finally, a more up to date review of the language in the test-anxiety literature is evident. Putwain (2007a) highlighted that the terms 'stress', 'anxiety' and 'worry' are used interchangeably in the literature which raises concerns about the lack of precision in the terminology. Further, the subject of investigation such as 'academic stress' or 'examination stress' needs to be made explicit in future research to ensure the transferability of findings. In this review, the focus is specifically on examination anxiety, where anxiety is associated with important examinations (Putwain, 2007a).

High-Stake Examinations. The term high-stake examination is present in the test-anxiety literature but rarely defined. In the UK, standard assessment tasks (SATs) at primary school and GCSE examinations at secondary school are national tests that are recognised as 'high-stake' because they have consequences for the future (West, 2010). Previously, Denscombe (2000) described GCSEs as "highly significant" (p.360) examinations for CYP which lead to further education and future prospects. They have also been described as a source of stress due to increased academic pressure around these examinations (Denscombe, 2000; Pascoe et al., 2020). Similarly, this has been recognised in primary school age children where increased stress levels have been reported due to the expectation that examinations will affect future achievement (Connor, 2003; Hutchings, 2015).

The definition of high-stake examinations could be seen to be subjective due to external pressures which influence CYP's examination experiences. The setting in which the examinations take place may have an impact on whether the examination is seen as high-stake. In the current educational landscape schools and teachers are held accountable for their results (Gipps, 2003; Hutchings, 2015; Suto & Oates, 2021; West, 2010; West et al., 2011; Wiliam, 2010). This can increase pressure on students and have negative effects on test-anxiety and performance (Hutchings, 2015). Indeed, when high-stake examinations were introduced as part of the national curriculum it was reported that these examinations benefited those who used appropriate test taking strategies and increased the gap between high and low achieving students due to feelings of overwhelm and low self-esteem in lower

achievers (Gipps, 2003; Harlen & Deakin Crick, 2003). This highlights the subjectivity of high-stake examinations due to individual student experience. A previous article by West (2010) suggested that policy makers should re-focus on the broader needs of society rather than on maximising results. More recently, Rimfeld et al.'s (2019) findings suggested that teacher assessment and standardised examinations were in high agreement and that reducing testing in education would benefit the wellbeing of both students and teachers. However, Suto and Oates (2021) reported that there was no evidence to suggest that moving towards an education system with no examinations would increase academic performance. Indeed, it has been suggested previously that high-stake examinations could increase student achievement if negative outcomes, such as student drop-out rates, inappropriate test preparation strategies, and decreased teacher morale, are addressed (Wiliam, 2010).

2.1.2 Context

Currently, mental health in schools is a significant topic of discussion whereby schools act as implementers and gatekeepers to support CYP (Caldwell et al., 2019; Patton et al., 2014; Platell et al., 2017). This is reflected in changes in legislation meaning that social, emotional and mental health difficulties are now explicitly categorised as special educational needs (SEN) (DfE, 2015). Furthermore, a green paper titled 'Transforming Children and Young People's Mental Health Provision' (DfE, 2017) promised to increase the amount of support in schools by 2021; however, it was criticised by the British Psychological Society (BPS, 2018a) for its lack of focus on preventative work. Current legislation in the UK places an emphasis on the role of education professionals in promoting positive mental health in CYP.

CYP's mental health difficulties are on the rise (Deighton et al., 2019; DfE, 2017; Olfson et al., 2014). Common mental health difficulties often start in adolescence (Patton et al., 2014), and despite under-reporting, experiences of anxiety and depression have increased (Collishaw, 2015) with anxiety being the most prevalent (von der Embse et al., 2018). Scott et al. (2018) reported that although normal levels of anxiety can enhance performance, this is not apparent in test-anxiety. High-pressured and threatening academic environments increase experiences of test-anxiety (Dan et al., 2014; Ramirez & Beilock, 2011; von der Embse et al., 2013). It has been reported that examinations cause a significant amount of stress and worry in secondary schools (Putwain, 2007a, 2009a). Putwain and Daly (2014) reported that 15-

22% of CYP experience test-anxiety. Therefore, understanding the significant impact test-anxiety has on CYP is essential to improving wellbeing.

When levels of test-anxiety are high, students are more likely to have reduced engagement in academic tasks and their academic performance is compromised (Ringeisen & Raufelder, 2015). It has been reported in a number of studies that cognitive processes are inhibited by test-anxiety, meaning we are more likely to make errors and have difficulties with recalling information, organisation, and maintaining attention (Owens et al., 2014; Putwain & Pescod, 2018; Scott et al., 2018; von der Embse et al., 2013). In addition to maladaptive cognition, test-anxiety is often connected to negative outcomes linked to behavioural, physiological and emotional responses (von der Embse et al., 2013). In a recent systematic literature review, Roos et al. (2020) concluded that it is important to capture both the worry and emotionality components to get a greater understanding of CYP's experiences, using both self-report and physiological measures. However, Roos et al. (2020) identified studies which generally used undergraduate samples, thus, limiting the transferability of findings to school contexts due to age differences. In sum, to support CYP effectively, it is essential that education professionals are aware of the consequences test-anxiety poses on cognition and learning, and social, emotional, and mental health.

2.1.3   Current Support for Test-Anxiety

To understand how CYP are currently supported with test-anxiety in schools it is critical to discuss what already exists in the literature. Reflecting on the interactionist approach conceptualised by Bronfenbrenner (1979, 2005) and Bronfenbrenner and Ceci (1994), it has been acknowledged that there are multiple influences on test-anxiety (von der Embse et al., 2018; von der Embse & Putwain, 2015). This review focuses on the microsystem and the interaction between student and teacher. Reference will also be made to the wider systemic levels outlined in Bronfenbrenner's (1979) bioecological systems theory (see Figure 1). Firstly, I will look more broadly at formal interventions before discussing the specific role parents and teachers have in supporting students with test-anxiety.

Figure 1

Bioecological System's Theory. Adapted from Bronfenbrenner (1979, 2005).

Chronosystem

Macrosystem

Exosystem

⇐Mesosystem⇒

Microsystem

You

Family, school, peers, workplace, neighbourhood

religious affiliation

Family⇔school⇔peers⇔neighbourhood⇔workplace

Economic system, political system, education system, government system, religious system

Overarching beliefs and values

Dimension of time
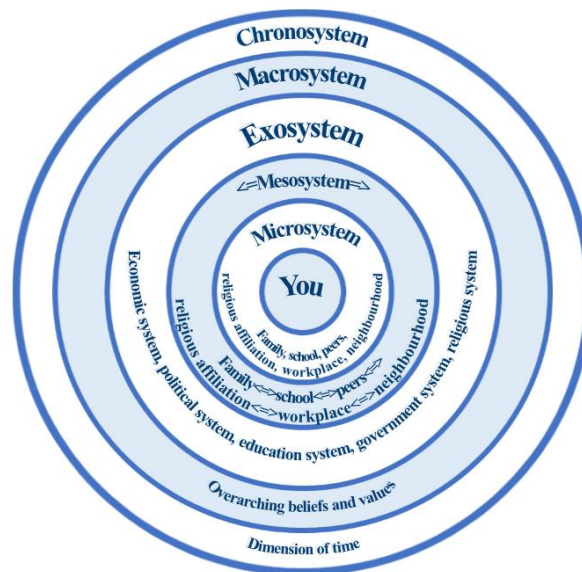
2.1.4 Intervention

A recent systematic review and meta-analysis carried out by Caldwell et al. (2019) concluded that there is not enough evidence on the effectiveness of school-based interventions for the prevention of common mental health difficulties in CYP, such as anxiety and depression. This is similar for test-anxiety interventions as discussed by von der Embse et al. (2013). They found limited evidence for test-anxiety interventions and little research into the development of such interventions. This claim was supported more recently by Putwain and Pescod (2018) where it was reported that the evidence for school-based interventions is limited.

With limited evidence for test-anxiety interventions available, initially looking more broadly at the effectiveness of mental health interventions in schools is appropriate. Caldwell et al. (2019) suggested that whole school interventions may be more effective as a preventative approach for anxiety and depression. Within this there is a need to focus on the individual child as well as the wider context in which the intervention is delivered, such as whole school ethos. In addition to a whole school focus, it is important that interventions are informed by student voice (Atkinson et al., 2019; Platell et al., 2017). This links to Bronfenbrenner's (1979) bioecological systems model and the multiple influences on CYP, in this case referencing the microsystem, for example, the impact that school staff have on CYP, with the

child at the centre of the intervention. It has been shown that whole school approaches for mental health and wellbeing are central to improving learning and academic achievement, including better attendance and examination results (Public Health England (PHE), 2014; Suldo et al., 2011; Weare, 2015). Therefore, highlighting the importance of supporting CYP to promote positive mental health and wellbeing, and enhance educational outcomes. However, in a recent systematic review, O'Reilly et al. (2018) claimed that despite various interventions in schools to support positive mental health, very few of these had been evaluated. Thus, we should still be critical of the cited research in this section as it is not specific to test-anxiety and there is only a small amount of evidence for the effectiveness of mental health interventions in schools.

The inclusion of CYP's perspectives about what works for them as a preventative measure to promote positive mental health will enable schools to focus their resources to support CYP with test-anxiety (von der Embse et al., 2013). Adolescents are key stakeholders in examinations and therefore encouraging discussion and feedback between students and schools will promote student voice in examination experiences, thus in the planning of future interventions (Woods et al., 2019). This is also supported by Atkinson et al. (2019) and Platell et al. (2017) in discussion of general mental health and wellbeing interventions.

Considering test-anxiety interventions more specifically, the evidence available suggests that they are effective when combining multiple techniques including cognitive behavioural techniques, relaxation, study skills, and mindfulness-based approaches. Previously, cognitive behavioural techniques were key to test-anxiety interventions, however those that include multiple techniques to support CYP are now recommended, as will be discussed next.

von der Embse et al.'s (2013) systematic review of test-anxiety interventions included studies ranging from the US, Germany, Great Britain, India, Israel, and Nigeria. Their review of 10 studies found evidence for the effectiveness of behavioural, cognitive, academic skill-building and biofeedback in alleviating test-anxiety in students. However, it would be useful for a more up to date systematic review to be carried out to explore more recent developments in test-anxiety interventions.

Since then, Yeo et al. (2016) evaluated a test-anxiety intervention for children aged 9-12. Although this is a younger population in comparison to the other studies discussed, their findings contributed to the knowledge base of school-based test-anxiety interventions. They

found that teaching of behavioural skills, such as relaxation, and cognitive skills, such as calming self-talk, revealed a reduction in test-anxiety amongst students compared to a control group. This research was carried out in Singapore where it was reported that it is a highly competitive schooling environment where examinations predict the quality of future educational placements which suggests the education system differs to that of the UK.

Carsley and Heath (2018) carried out research in Canada with the aim of evaluating the effectiveness of a mindfulness-based approach in alleviating test-anxiety in adolescents. The intervention involved students being given colouring activities prior to an examination and showed that the activities decreased test-anxiety and increased mindfulness in students. The context in which this research was carried out was different to the UK, this means that the schooling contexts in which these studies were carried out will vary and cannot be generalised to the UK context without criticism.

In the UK, Putwain and Pescod (2018) evaluated a test-anxiety intervention known as steps to success (STEPs), for adolescents preparing for high-stake examinations. The intervention included relaxation, study skills training, and identifying negative self-talk and replacing it with positive self-talk. They found that the intervention significantly reduced the worry and tension components of test-anxiety that were mediated by a reduction in uncertain control. This was previously supported by Putwain et al. (2014) who suggested that highly test-anxious students benefited from this intervention to manage their test-anxiety.

Much of the literature cited is based on CYP's perspectives, therefore individual differences in culture and societal expectations should be considered. There is a need to recognise that the most appropriate interventions for CYP could be specific to schools and students depending on the context.

2.1.5   Parent Support

There has been recognition of support offered by parents in the build up to high-stake examinations. When the national curriculum was introduced, accountability pressures in schools increased and parents were seen as key stakeholders as national examination results and school league tables were made available (West, 2010; West et al., 2011). Denscombe (2000) identified parental pressure as an influencing factor on test-anxiety. Indeed, CYP reported feeling more anxious if parents questioned them about upcoming examinations and were unaware of the workload (Chamberlain et al., 2011). More recently, it was suggested

that parents had a role in offering advice on prioritising subjects and revision (Flitcroft & Woods, 2018), as well as providing supportive and cooperative relationships. Bilton et al. (2018) agreed, suggesting that while teachers are responsible for CYP's education, parents are responsible for emotional support, including trust, confidence, and comfort (Davies, 2017). From the research discussed it seems that parents do have a role in supporting students with test-anxiety in terms of social and emotional support.

Research by Deb et al. (2015) showed that academic stress positively correlates with parental pressure and psychiatric problems, and they concluded that children with poor coping capacities are prone to anxiety, depression and fear of academic failure. Thus, suggesting that parental support may have an influence on their child's coping strategies and feelings of stress at school. However, this research was carried out in India which means that there could be differences in parent-child relationships in comparison to the UK and expectations of achievement may differ according to the differing schooling contexts.

In a recent literature review by Howard (2020) on anxiety for educational assessments, the role of parental support was discussed. They suggested that parents should create a positive home environment to nurture student self-beliefs by setting reasonable expectations for achievement. Furthermore, it was suggested that intervention for test-anxiety is a shared responsibility between home and school to encourage healthy coping strategies and motivate students towards examinations. Considering Bronfenbrenner's (1979) mesosystem, a positive home-school relationship acts as a support for student success (Reschly & Christenson, 2009). Howard (2020) concluded by emphasising that parents, schools and CYP have a joint responsibility to reduce test-anxiety. Thus, it seems that the research discussed highlights the key role parents and teachers have in supporting test-anxiety. The role of teachers will now be explored in more detail to understand what is currently known about teacher support of test-anxiety.

2.1.6   Teacher Support

Martin and Marsh (2008) use the term 'academic buoyancy' to describe CYP who can withstand pressures and adapt to setbacks throughout education. They identified that those with high academic buoyancy are better able to cope with test-anxiety and are more likely to be academically buoyant if they have connections with competent and caring adults. Furthermore, emotional support from teachers at the beginning of the year (Ruzek et al.,

2016) and consistently throughout the classroom (Curby et al., 2013) is a significant aspect of CYP's classroom environments. Despite Curby et al.'s (2013) and Ruzek et al.'s (2016) research not focusing on emotional support for test-anxiety, they highlight the salient role teachers have in supporting wellbeing in the classroom. Indeed, Putwain et al. (2021) reported there are strong links between school related wellbeing and test-anxiety. In contrast, Denscombe (2000) reported that teachers could have a negative influence on wellbeing. Their findings suggested that CYP identified teachers as "stress amplifiers" (p. 365). However, if teachers can build trusting relationships with them, help in the preparation for examinations and develop positive attitudes, then they are likely to act as a protective factor, improving examination performance and lowering test-anxiety overall (Ringeisen & Raufelder, 2015).

There appears to be limited research about teacher understanding and knowledge of test-anxiety. Atkinson et al. (2019) suggested that there is a lack of clarity about to what extent teachers understand the pressures experienced by CYP today. They reported that due to the increase in outcome and examination focus, adults may have an awareness of CYP's experiences but have not directly experienced it themselves. Therefore, teachers' capacity to support CYP with examinations may be limited. A study by Urhahne et al. (2011) found that teachers lacked knowledge of CYP's self-perception and were unable to recognise which CYP needed emotional support for test-anxiety. If teachers' knowledge of this topic is increased, then perhaps they will be better able to recognise which CYP need support. Forrest et al. (2019) supported this claim, highlighting the influence that knowledge, time for reflection, and collaboration between staff has on teacher practice change. In this study, when a teacher's knowledge of the positive outcome of using a visual timetable support was increased, the teacher began using more visuals within their practice as they knew the benefits this would offer the children they were working with. Nevertheless, Forrest et al. (2019) used a case study approach and did not specifically focus on mental health or test-anxiety, therefore the transferability of findings in this study is limited. Future research aiming to gather student perceptions of teacher support to develop understanding of the impact that teacher practice has on high-stake examinations should be considered (Flitcroft et al., 2017).

The language teachers use is known to have an effect on how motivated CYP are towards examinations, as well as feelings of test-anxiety (Flitcroft & Woods, 2018; Putwain & Roberts, 2012). Furthermore, teacher-student communication has an effect on test performance, for example, messages that provoke positive or negative outcomes are likely to

influence test outcomes (von der Embse et al., 2015). Additionally, Howard (2020) suggested that test-anxiety can be minimised through interpersonal interactions between teachers and students. Putwain and Roberts (2012) reported teachers' use of fear appeals. Fear appeals are threat-based messages highlighting that a particular course of action, such as not engaging in lessons, may have consequences, such as academic failure (Putwain et al., 2017). Fear appeals tend to effect students by increasing anxiety and frustration, and decreasing motivation (Chamberlain et al., 2011; Putwain & Roberts, 2009; Sprinkle et al., 2006). Additionally, Flitcroft et al. (2017) highlighted the key role teachers have in alleviating test-anxiety where they reported that CYP's preference of how teachers communicate with them leans towards supportive messages that provide calming reassurance. Interestingly, Flitcroft et al. (2017) also found that some CYP valued the use of fear appeals because it increased their motivation in the build up to examinations. It seems that future research is needed to fully understand how teachers motivate their students. This claim is supported by Flitcroft and Woods (2018) who go on to suggest that more detailed data are needed through the use of more dynamic data collection methods to further understand this topic.

External influences, such as accountability, are likely to influence test-anxiety. Teachers are held accountable for student results which has been shown to increase teacher stress and decrease morale (Rimfeld et al., 2019; Wiliam, 2010). Despite the their research being two decades old and which could be seen as a limitation, Denscombe (2000) support this claim. They suggested teachers constantly remind CYP about school league tables which acts as a significant source of stress for students (Denscombe, 2000). These findings were supported more recently by Putwain and Pescod (2018) who claimed that test-anxiety is exaggerated in schools where test data were used for accountability purposes. On the other hand, Hutchings (2015) argued that, despite accountability increasing anxiety for CYP, teachers had a role in protecting and shielding them from these pressures. The extent to which schools emphasise examinations and results varies (Hutchings, 2015), suggesting that teachers have a role in supporting CYP to feel less test-anxious prior to high-stake examinations.

It can be concluded from the literature discussed that education professionals have a key role in supporting CYP with test-anxiety (von der Embse et al., 2018). Thus, it is important to clearly identify the multiple roles teachers have so that test-anxiety can be reduced, and positive wellbeing increased.

2.1.7 *Rationale and Aim*

Regarding specific teacher support of student test-anxiety, no published systematic literature reviews are currently available in this area. Indeed, there is a lack of research in the test-anxiety literature in general. Therefore, the need to synthesise evidence of what is already known is essential to planning future research. Accordingly, this review specifically aims to answer the following review question: How do teachers support student test-anxiety in schools?

2.2   Methods

2.2.1   *Search Strategy*

The Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework (Moher et al., 2009) was used to identify and select the appropriate papers to answer the review question (see Figure 2). Between July 2020 and August 2020 (inclusive) a systematic literature search of studies was carried out using the following electronic databases; Web of Science, APA PsycINFO, Education Resources Information Centre (ERIC), and Education Research Complete. The British Education Index was also searched however zero results were produced from this database. Searches were repeated in May 2021 to identify any relevant new publications. Within the databases, published and grey literature, such as research reports, conference abstracts, magazines, and dissertations, were identified and screened for relevance to minimise publication bias (Booth et al., 2016). Searching for grey literature allows for a wide range of evidence to be identified from varying sources, however often the peer-reviewed status is unclear and the evidence is more likely to be biased (Boland et al., 2017). Mahood et al. (2014) reported that grey literature searches broadened the scope of studies identified and potentially provided support for the included peer-reviewed literature. Despite this, there are a lack of clear guidelines for searching grey literature databases and additional time-consuming difficulties related to differences in the format and length of documents in comparison to structured peer-reviewed studies (Mahood et al., 2014). In this review, grey literature sources were included as specified in the inclusion and exclusion criteria.

Key words and search terms were developed and tested before being identified following scoping searches of the literature. The terms were identified through initial searches on Google Scholar to identify key papers and keywords included in the studies, they were then

tested across the databases using differing combinations of the terms until the final search strategy was identified. Boolean operators were used ('AND', 'OR', 'NOT') between terms, and a proximity operator was used to search for phrases that contained the key search terms five words apart to expand the search. For example, to identify the concept of test-anxiety ("test anxiet*" OR "exam* anxiet*" OR "test stress" OR "exam* stress") and the strategies used by teachers (teach* N5 (role OR support OR strateg* OR approach* OR method*)) in schools and colleges (AND school* OR "sixth form" OR college* NOT universit*). Asterisks were used at the end of words to expand the search to terms with different endings. For example, exam* would find exam, exams, examination, and examinations. Quotation marks were used to search for exact phrases. Depending on the individual database requirements, the operators were used differently (see Appendix A). The initial scoping searches revealed that there was likely to be limited research in this area, therefore no date range was set and the search was expanded from supporting test-anxiety in primary and secondary schools to include sixth forms and colleges where examinations are also recognised as significant for CYP (Rimfeld et al., 2019). The bibliographic software used to store and manage the results of the scoping searches and main literature search was Zotero.

2.2.2 Inclusion and Exclusion Criteria

Pre-defined inclusion and exclusion criteria were developed (Table 1) to minimise the possibility of selection bias of studies and articles were scanned for relevance against these criteria.

Table 1

Systematic literature review inclusion and exclusion criteria.

Study Item	Inclusion Criteria	Exclusion Criteria
Type of research	Original/primary research. Secondary research e.g. discussions, review articles, conference presentations.	N/A
Publication requirements	Published in a peer-reviewed journal. Published in a book, non-peer-reviewed work, research reports,	N/A

	unpublished full-texts e.g. theses or dissertations, paper collections.	
Date	Any	N/A
Language	Written in English.	Written in any language other than English.
Context	Primary school, secondary school, sixth form or college (up to the age of 19).	University.
Methodology/study design	Qualitative, quantitative, and mixed method designs (all deemed appropriate due to lack of research in this area).	N/A

2.2.3   Screening and Selection

Study Selection. The initial searches in the bibliographic databases produced a total of 208 references (ERIC n=79, Education Research Complete n=10, APA PsycINFO n=91, Web of Science n=28). Once duplicates were removed, using the reference management software Zotero, 179 references remained. It is reported in the literature that the key term 'test-anxiety' has been consistently defined since the late 1960's (Liebert & Morris, 1967; Pourtaleb et al., 2018; Putwain, 2007b; Ringeisen & Raufelder, 2015; von der Embse et al., 2018), therefore the search terms used were likely to capture the relevant papers. However, teacher support for test-anxiety is under-researched (Putwain, 2009a) which highlights the small number of papers that were likely to be identified.

A screening and selection tool was developed using the predetermined inclusion and exclusion criteria (see Appendix B). The decision was made to include both primary and secondary research and a variety of publication types due to the limited number of papers available, as identified in the initial searches. The tool was piloted to ensure the references gathered were relevant to the review question and to guide decision making. The remaining 179 references were screened in two stages: stage one: screening titles and abstracts; and stage two: screening and selecting full-text papers.

Stage One: Screening Titles and Abstracts. At this stage, 118 studies were excluded. The most common reasons for exclusion at this stage include: the studies focusing on a topic not relevant to the review question, for example, mathematics anxiety, teacher anxiety, motivation, or parent role, and the studies being carried out in university settings.

36 studies were identified as meeting the inclusion criteria. It was unclear if a further 25 studies met all the inclusion criteria due to relevant information not reported in the abstract, therefore they were included at this stage to ensure relevant articles were not excluded. In total, 61 studies were included at stage one of the screening process. To reduce bias and make the review more robust the screening of titles and abstracts was repeated, allowing for reflection and the opportunity to resolve any discrepancies.

Stage Two: Screening and Selecting Full-Text Papers. The full-texts of the remaining 61 potentially relevant studies were retrieved through the University of Exeter library access. The full-texts were then screened using the screening and selection tool. At this point, a further 49 studies were excluded as they did not fully address the inclusion criteria. There were four main reasons why this number of studies were excluded at this stage. Firstly, the studies did not report any aims, findings and/or discussion specific to teacher role in supporting test-anxiety, for example, some of the studies alternatively focused on external interventions or teacher perceptions of test-anxiety. Secondly, after searching online databases and the university library it was clear that full-text versions of some of the studies were unavailable. Thirdly, some of the studies were carried out in a university context which was not made clear within the abstracts at stage one of screening. Finally, some of the texts were not available in the English language. See Appendix C for full details of the exclusion rationales for these studies.

This led to a total of 12 studies included in the current review (3 qualitative, 6 quantitative, 1 mixed methods, and 2 secondary sources). See Figure 2 for the PRISMA recording flow diagram, which shows the paper identification and search and screening process (Moher et al., 2009).

Figure 2

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework.
Adapted from Moher et al. (2009).

Identification

Records identified through database searching
(n = 208) (ERIC n = 79, Education Research Complete n = 10, Web of Science n= 28, PsycINFO n = 91)

↓

Screening

Records after duplicates removed
(n = 179)

↓

Titles and abstracts of records screened
(n = 179) → Records excluded
(n = 118)

↓

Eligibility

Full-text articles assessed for eligibility
(n = 61) → Full-text articles excluded, with reasons
(n = 49)

↓

Included

Studies included:
Total = 12 papers (6 quantitative, 3 qualitative, 1 mixed methods, 2 secondary sources)

2.2.4   Data Extraction Process

Key data regarding the study characteristics and findings were summarised for the final eligible studies in a data extraction table (see Appendix D). This data included: author(s), year, country, aim, participant characteristics (e.g. sample size, ages and genders), context,

study design and methodology, and findings specific to teacher role and support for students with test-anxiety.

2.2.5   Quality Assessment

The primary sources (ten in total) were assessed using Gough's (2007) 'weight of evidence' (WoE) criteria in terms of methodological quality (WoE A), methodological appropriateness (WoE B), and appropriateness of study focus (WoE C). The quality assessment results are reported in Appendix E, and a descriptive summary in 2.3.2.

The methodological quality (WoE A) and methodological appropriateness (WoE B) assessment of all studies were coded using a framework adapted from a systematic review of the effectiveness of solution focussed brief therapy (SFBT) by Bond, et al. (2013). Although the checklist can be used to allocate each study a score based on the quality of methodology, Booth et al. (2016) suggested avoiding numerical scores when carrying out quality assessments. Therefore, 'yes' and 'no' responses were used to help understand how the study strengths and weaknesses contributed to the validity of the findings. If it was unclear, then a response of 'not sure' with reasons was used.

For the qualitative studies, Bond et al.'s (2013) framework identifies 12 criteria, such as clear sampling rationale, evidence of explicit reflexivity, well executed data collection and transferable conclusions. The quantitative studies were coded with 'yes' or 'no' responses using a six criteria framework, with criteria including a focus on a specific and well-defined problem, use of outcome measures with demonstrably good reliability and validity, and fidelity checking. Studies that were identified as mixed methods were 'dual coded' and evaluated as qualitative and quantitative studies. No papers were excluded on the basis of methodological quality or appropriateness because the appraisal of the studies could only be carried out by one person and due to the high subjectivity of quality assessment processes (Booth et al., 2016).

The appropriateness of focus (WoE C) (Gough, 2007) of all 12 studies was evaluated in terms of test-anxiety being the primary focus of the study, and reference to teacher role and/or support of test-anxiety. As above, 'yes' and 'no' responses were used. All papers received a 'yes' in one or both columns, therefore all papers were retained for the final synthesis.

Two of the remaining studies were not original papers and did not collect their own data, therefore they could not quality assessed based on methodology because they did not have a methods and results section. Instead, the quality of the papers was assessed based on their transparency, trustworthiness, and methods of reporting.

2.2.6 Data Synthesis

Following the quality assessment, 12 papers were included in the final review. The papers were read in full to integrate findings using framework synthesis, based on framework analysis as outlined by Pope (2000). Framework synthesis was used to allow for findings to be classified into manageable and meaningful sections for further exploration (Oliver et al., 2008), enabling synthesis of all included studies as part of this exploratory phase. At the planning stages the framework was based on Liebert and Morris' (1967) multi-dimensional model of test-anxiety: worry and emotionality, however it was identified from the findings that a broader framework was necessary in order to capture the range of approaches used by teachers to support test-anxiety. Subsequently, findings were synthesised and organised using the interactive factors framework (IFF) (Morton & Frith, 1995), this framework was chosen as it allows for synthesis of data across broad categories: biological, cognitive, behavioural and environmental (Figure 3). In addition, the IFF considers an overlap and interaction between each of the categories. Despite the approach being deductive, a 'best fit' framework can be applied (Dixon-Woods, 2011) enabling further themes to be identified for findings that do not fit in the initial framework. In this review, a further three themes were identified: social, emotional, and motivational. This provided a useful framework to understand what is known about the strategies teachers use and the role they have when supporting test-anxiety. Furthermore, framework synthesis is a useful tool to aid the identification of gaps in the existing literature (Oliver et al., 2008). The synthesis of studies in this review led to reporting descriptive summaries rather than an extension of knowledge or explanation of meaning which is a weakness to this approach (Xiao & Watson, 2019), however fits within the assumptions of this study with the aim to understand what the literature tells us about teacher support for test-anxiety.

Figure 3

Interactive Factors Framework (IFF) adapted from (Morton & Frith, 1995).

2.3   Results

2.3.1   Study Characteristics

This section should be read in conjunction with the data extraction table (Appendix D). The final 12 selected studies were published between 1992 and 2018. Studies were from a range of countries; Turkey (Bas, 2016; Yildirim et al., 2008), UK (Chamberlain et al., 2011; Putwain & Symes, 2011), Germany (Raufelder et al., 2018), Republic of Ireland (Smyth & Banks, 2012), Korea (Song et al., 2015), United States of America (USA) (Mealey & Host, 1992; Scholze & Sapp, 2006; Triplett & Barksdale, 2005; Wisdom, 2018), and one study did not report the country where the research was carried out (Hascoët et al., 2018). The context of the studies was across a range of settings including high school (Bas, 2016; Wisdom, 2018; Yildirim et al., 2008), sixth form college (Chamberlain et al., 2011), elementary school (Hascoët et al., 2018; Triplett & Barksdale, 2005), secondary school (Putwain & Symes, 2011; Raufelder et al., 2018; Smyth & Banks, 2012), and middle school (Song et al., 2015). It is important to recognise the age differences across school contexts, for example, the age range of students at a high school in the USA is 14-18 years, compared to the age range of students at a secondary school in the UK which is 11-16 years. Therefore, any comparisons made across settings will need to consider age differences. The age of student participants across all studies ranged from 8-19 years. The sample size of students participating in the studies ranged from 12-6089. One study also included 108 teacher participants alongside the

student sample with an age range of 24-56 years (Bas, 2016). Wisdom (2018) included only teacher participants with no student informants (n=12). Three of the studies used a qualitative design (Bas, 2016; Triplett & Barksdale, 2005; Wisdom, 2018), six of the studies used a quantitative design (Chamberlain et al., 2011; Hascoët et al., 2018; Putwain & Symes, 2011; Raufelder et al., 2018; Song et al., 2015; Yildirim et al., 2008), and one study used a mixed methods design (Smyth & Banks, 2012). Two of the papers were secondary sources, one was an article reporting scholarship on teaching methods (Mealey & Host, 1992) and one a discussion paper (Scholze & Sapp, 2006).

A range of measures were used in the included studies. All six quantitative studies included a measure of test-anxiety, however the measures were different across the studies. The measures relied on self-reporting methods, and all used a Likert-type rating scale. The measures included the Westside test-anxiety scale (Bas, 2016; Driscoll, 2007), items adapted from Govaerts (2006) test-anxiety measure (Hascoët et al., 2018), the revised test-anxiety Scale (RTA: Benson et al., 1992; revised by Hagtvet & Benson, 1997; Putwain & Symes, 2011), the brief German test-anxiety inventory (Hodapp et al., 2011; Raufelder et al., 2018), items from the Korean educational longitudinal study (KELS) database (Kim et al., 2007; Song et al., 2015), and the test-anxiety inventory (TAI: originally developed by Spielberg, 1980; Yildirim et al., 2008). Ten studies used self-report data collection methods. Seven studies were cross-sectional where data were collected at one point without follow up (Bas, 2016; Chamberlain et al., 2011; Hascoët et al., 2018; Raufelder et al., 2018; Triplett & Barksdale, 2005; Wisdom, 2018; Yildirim et al., 2008), and three studies were longitudinal where data were collected at two points or more (Putwain & Symes, 2011; Smyth & Banks, 2012; Song et al., 2015). Two of the papers did not collect their own data and relied on secondary data (Mealey & Host, 1992; Scholze & Sapp, 2006).

2.3.2   Result of Quality Assessment

The methodological quality (WoE A) and methodological appropriateness (WoE B) (Gough, 2007) was assessed for four qualitative studies (including the mixed methods study, Smyth & Banks, 2012) and seven quantitative studies (including the mixed methods study). See Appendix E for quality assessment tables which include the specific criteria used to assess the studies.

For the qualitative studies, all four used an appropriate design to match the research aims, presented a clear procedure for data collection and the limitations of their methods, and showed evidence of ethical considerations when carrying out the research. Additionally, all the studies used a clear reporting structure, however two studies did not include comprehensive documentation of interview schedules or transcripts in the appendices (Chamberlain et al., 2011; Smyth & Banks, 2012). Triplett & Barksdale (2005) included copies of drawings with their findings. In terms of the data analysis, all four studies used appropriate analysis methods and presented the themes of their findings clearly. One study outlined contradictions in their findings (Chamberlain et al., 2011) compared to one that did not report any contradictions or outliers (Triplett & Barksdale, 2005). A third study did not report their findings from interviews carried out from an alternative perspective (Smyth & Banks, 2012), which could reduce the credibility of findings. The fourth study was a case study design (Wisdom, 2018) and therefore lacks a variety of perspectives, reducing the transferability of findings. The researcher-participant relationship was not described in three studies (Chamberlain et al., 2011; Smyth & Banks, 2012; Triplett & Barksdale, 2005), therefore potentially presenting ethical implications. For example, in qualitative research the participants are encouraged to recall their personal experiences, as such their relationship with the researcher may be viewed as having a therapeutic dimension and could be addressed through discussions within the research team to manage the dilemmas that may occur through person-to-person interaction (Eide & Kahn, 2008). One study detailed the researcher-participant relationship clearly (Wisdom, 2018). Three studies did not include a statement of reflexivity and author assumptions (Chamberlain et al., 2011; Smyth & Banks, 2012; Triplett & Barksdale, 2005), however one study did outline the limitations to their philosophical approach (Smyth & Banks, 2012). One study explicitly discussed reflexivity (Wisdom, 2018). Finally, three studies contextualised the findings and commented on the limitations of their research (Chamberlain et al., 2011; Smyth & Banks, 2012; Wisdom, 2018), however one study did not discuss limitations or transferability of their results (Triplett & Barksdale, 2005).

For the quantitative studies, all seven had a well-defined and specific topic focus. None of the studies used a randomised group design or included standard control or comparison groups, this could be due to the studies not evaluating an intervention. Instead, one study used a correlation investigation model (Bas, 2016), five studies used surveys only (Hascoët et al., 2018; Putwain & Symes, 2011; Raufelder et al., 2018; Song et al., 2015; Yildirim et al.,

2008), and the mixed methods study used a combination of interviews and surveys (Smyth & Banks, 2012). In one study the effect size is recognised as being small, however the results are noted to be consistent with other research in this area (Hascoët et al., 2018). The effect size was not discussed or reported in the other six studies, this means it will be difficult to understand the true effect of the findings reported in the studies. However, as they were not evaluating an intervention this could be why this information was omitted by the authors. Six studies reported a detailed procedure for data collection that could be replicated, one study did not (Song et al., 2015). In terms of the use of outcome measures, six studies reported the validity and reliability of the measures used, such as content validity and internal consistency. The mixed methods study did not use an outcome measure, instead they used quantitative surveys and qualitative interviews to gain student views (Smyth & Banks, 2012).

Two of the remaining studies did not have a methodology section as they were not empirical papers, therefore they were assessed by means of critical discussion of the data that were presented. Both papers presented limited evidence and the discussion is not counter balanced (Mealey & Host, 1992; Scholze & Sapp, 2006). Mealey and Host (1992) discuss evidence focusing on teacher role in alleviating test-anxiety and do not discuss a counter argument or missing evidence, suggesting there could be a bias towards the positive role teachers have in supporting test-anxiety. Both papers also lack criticality of the evidence discussed, for example, Mealey and Host (1992) reported anecdotal evidence gathered in their own classroom and do not triangulate this with previous findings in the literature, reducing the credibility of the paper. Furthermore, it is unclear if Scholze and Sapp's (2006) conclusions were transferable as they did not discuss the limitations of the evidence presented. However, both papers did clearly reference the evidence which increases the trustworthiness of the discussion by the authors.

The appropriateness of study focus (WoE C) (Gough, 2007) was assessed for all included studies. Eight of the studies included test-anxiety as a primary focus of the study (Chamberlain et al., 2011; Mealey & Host, 1992; Putwain & Symes, 2011; Raufelder et al., 2018; Scholze & Sapp, 2006; Smyth & Banks, 2012; Wisdom, 2018; Yildirim et al., 2008). The primary focus for four studies was an alternative topic where test-anxiety was identified as a mediator, such as teaching-learning conceptions and academic achievement (Bas, 2016), teacher conditional support on perception of school competence (Hascoët et al., 2018), perceived social support from peers, parents and teachers (Song et al., 2015), and student perceptions of high-stake testing (Triplett & Barksdale, 2005) . These studies were included

due to the limited research on this topic, therefore it was important to review all relevant findings within the included studies. Future research needs to primarily focus on how teachers support test-anxiety.

2.3.3   Synthesis of Findings

The aim of this review was to identify how teachers support students with test-anxiety. The following section presents a framework synthesis (Oliver et al., 2008). Findings from the included studies that were relevant to the review question were synthesised and organised using the IFF (Morton & Frith, 1995), as justified in 2.2.6. The framework allows for synthesis across broad categories: biological, cognitive, behavioural, and environment (see Figure 3). By using a 'best fit' framework (Dixon-Woods, 2011), this meant that although no studies identified teacher support at a biological level, a further three categories were identified: social, emotional, motivational. In this review, five studies reported on teacher support at a cognitive level, six at a behavioural level, five at an emotional level, and eight at a social level. Four studies reported on teacher support with reference to motivation and finally, four at an environmental level. Next, I will discuss each of these themes by introducing the aim of each study, the relevant findings linked to the framework, and critique of the study.

2.3.4   Cognitive

Teacher support at a cognitive level incorporates the promotion of achievement and learning, and executive functioning skills. Findings from five studies are suggestive of teacher support at a cognitive level for student test-anxiety (Chamberlain et al., 2011; Mealey & Host, 1992; Scholze & Sapp, 2006; Wisdom, 2018; Yildirim et al., 2008).

Chamberlain et al. (2011) explored student experiences of test-anxiety and useful strategies that help to alleviate this. Within this study the authors interviewed 19 students aged 16-19 at a UK sixth form college. Findings suggested teacher role was not important when supporting test-anxiety because students used their own cognitive resources to alleviate test-anxiety. When students were asked what teachers could do to help manage their test-anxiety, it was reported that "the majority" of students did not want any further help or support because they found their anxiety useful when taking examinations. Chamberlain et al. (2011) explained

that this could be because students did not know what support would look like from their teachers. Additionally, the students could have been less test-anxious generally because they were from a high-achieving sixth-form college. The results could also be explained by the presence of a teacher in the focus groups which may have affected student responses. Test-anxiety may have a positive influence on academic achievement for some students, therefore those students genuinely believed that alleviating test-anxiety was not part of the teacher role.

Prior to this and on the contrary, Mealey and Host (1992) reported that teachers do have a role in helping students develop effective learning strategies around supporting test-anxiety. This was a discussion paper rather than an empirical study which means it does not have an explicit and robust methodology. However, the paper was published in a journal where all submitted articles are double-blind peer-reviewed, increasing the credibility of this paper. In their discussion, Mealey and Host (1992) summarised the causes of test-anxiety and discussed ways that teachers can help test-anxious students in the classroom. The authors asked 102 students (age not reported) in their developmental reading class in the USA what teachers could do to help students feel more relaxed and less nervous before, during and after a test. They found that approximately three-quarters of the students (n=74) wanted teachers to review the material needed before a test as it gave them a sense of security that their notes were exact and correct. Mealey and Host (1992) emphasised that students should be taught effective study skills, preparation strategies, and helped to understand when and how to use these skills. Consequently, stating that teachers will help students gain control over their test performance and be successful learners. To confirm or dispute these findings an empirical study could be carried out to better understand student views on how teachers can help them develop effective learning strategies to support test-anxiety in the classroom.

Scholze and Sapp (2006) discussed test-anxiety and multi-cultural learners. This was not an empirical paper therefore the article was discussion based. They summarised a study based in Japan by Kondo (1997) which suggested that increasing student study skills via tutoring and teaching preparation strategies was not effective in improving test scores for test-anxious students. Furthermore, Kondo (1997) suggested that students with test-anxiety used preparation strategies more often than those without, yet these skills were affected by an overwhelming fear and apprehension of the test. This could suggest Scholze and Sapp's (2006) discussion is in line with Chamberlain et al. (2011), where teaching study skills is unlikely to be a helpful strategy for managing student test-anxiety. It is unclear if there is more evidence in the literature that supports the claim that teaching study skills may be

ineffective, however a small amount of literature on ineffective teaching approaches was referenced by Scholze and Sapp (2006) in this discussion and a more detailed and comprehensive presentation of the evidence is needed in order to confirm or dispute these claims. Furthermore, Scholze and Sapp's (2006) discussion paper focuses specifically on multi-cultural learners meaning that their conclusions may not be able to be transferred to a UK education context. It is unclear if the literature cited in Scholze and Sapp's (2006) paper focuses solely on the multi-cultural learner population, or if it discusses evidence based on a UK population, for example McDonald (2001).

Wisdom (2018) aimed to understand teacher knowledge, experiences and perceptions about students' preparation and responses to high-stake examinations, as well as teacher perceptions of the strategies needed to reduce student test-anxiety. Interview data from seven of the 12 English and mathematics teachers in the USA suggested that the teachers believed students benefited from being taught study skills. For example, practising a variety of test question formats, and helping prepare them for the content and structure of the examinations, such as sharing the specific test language used and how to decode a question. Some of these teachers believed this increased student confidence and experiences of success in examinations. Additionally, two teachers reported that feedback from students about their testing experiences and the usefulness of pre-test preparation helped them to feel calmer. In this instance, it is important to recognise that teachers were the participant group in this study, therefore the findings are based on their perceptions of student test preparation and anxiety only and have not been triangulated with student perceptions, which would have increased the credibility of their findings.

Yildirim et al.'s (2008) findings suggested that educators have a role in promoting achievement in students. They aimed to understand the relationship between test-anxiety, perfectionism, academic achievement and perceived social support from family, friends, and teachers. The study involved 505 14-18 year old students in Turkey completing a survey. It was suggested in the findings of this study that students could be supported if they were taught about time management, effective study skills, motivation, and guidance services. Yildirim et al. (2008) concluded that the better the academic achievement, the lower student test-anxiety. Teachers' role in improving cognitive skills increases achievement and this in turn decreases test-anxiety in students. However, it is important to consider that the findings at a cognitive level should not be isolated as this study also explored perfectionism and perceived social support as influencing factors on test-anxiety. Yildirim et al. (2008) also

highlighted that the higher the levels of student test-anxiety, the higher the perfectionist tendencies and the lower the perceived support from friends and teachers. Therefore, helping students with perfectionist tendencies and increasing their belief in social support could be a more successful way of alleviating test-anxiety.

Teacher support of cognitive skills across the studies present contradictory findings. On the one hand, teachers have a role in increasing skills which in turn alleviates test-anxiety. However, one study suggests that students rely on their own cognitive skills and teachers are dismissed as unhelpful in managing test-anxiety. A second study suggests teaching study skills are not effective in reducing test-anxiety. This is an interesting finding and could suggest that students who feel more in control of their own learning may be better able to cope with their test-anxiety compared to students who rely on teacher support.

2.3.5 *Behavioural*

For teacher support at a behavioural level, two subthemes were identified: teacher method and teacher attitude. First, across five studies (Bas, 2016; Mealey & Host, 1992; Smyth & Banks, 2012; Song et al., 2015; Wisdom, 2018), students reported that teachers can alleviate or increase feelings of test-anxiety dependent on the teaching method. Second, Chamberlain et al.'s (2011) findings suggested the importance of teacher attitude towards upcoming examinations.

Teacher Method. Bas (2016) examined the mediating effect of test-anxiety on the relationship between teaching-learning conceptions and levels of academic achievement in students. Teaching-learning conceptions were defined as the beliefs held by teachers about their preferred way of teaching and learning, including the meaning of teaching and learning and the roles of teachers and pupils. Findings were significant, suggesting that the more active students were in the learning process (constructivist teaching-learning conception), the higher their academic achievement, and the less test-anxiety they experience. This was the only study that combined data from two sources, with a sample representing 526 students aged 13-18 years and 108 teachers aged 24-56 years, however it was carried out in Turkey

meaning that findings cannot be generalised to the UK education system due to differences in culture and teacher instruction methods.

Within Mealey and Host's (1992) discussion paper it was reported that students who are actively engaged in the learning process and use test preparation strategies are less likely to experience test-anxiety. They suggested that "by helping students develop effective learning strategies, allowing them to learn from each other, and providing a positive atmosphere in the classroom, teachers can make it possible for anxious students to succeed" (p. 149). Mealey and Host (1992) did not carry out an empirical study and the methodology and analysis of any data collected was not discussed, therefore the dependability of findings reported is reduced and the discussion must be treated with a degree of criticality. The authors reported some findings from their own data collection where they asked 102 students, what teachers could do to help them feel more relaxed or less nervous around tests. Subsequently, it was suggested that teachers could increase nervousness during tests. For example, when teachers talk or interrupt students during a test, such as referring students back to another page in the test, or when they walk around the room or look over the shoulders of the students, this increased nervousness.

Smyth and Banks' (2012) longitudinal research highlighted how students can identify methods of teacher instruction and the influence this has on feelings of stress and anxiety in the build up to examinations. Students were interviewed in groups of six (47x6 14-15 year olds, n = 282; 53x6 17-18 year olds, n = 318). They were asked to identify what makes 'good teaching' in a system where examinations are at high-stake for students. Data were gathered by survey and group interviews in this study, thus triangulating the findings across different data collection methods and increasing the study credibility. The findings suggested that students can critically reflect on their learning experiences and identify a preference of active learning methods, such as opportunities to express their own opinions and the use of innovative and interactive teaching approaches. It was not made explicit in the findings how the preferred teaching methods identified by students effected levels of test-anxiety experienced. Yet, Smyth and Banks (2012) concluded that students experience increased demands and report feelings of stress in their examination years. Therefore, teachers can support high-aspiring students with this through 'good teaching' methods identified by the students, such as focusing on the skills, knowledge and preparation needed to do well in the build up to high-stake examinations.

Song et al. (2015a) aimed to understand the importance of perceived social support, the consequences associated with different types of perceived social support, and the mediation by achievement goals in the relationship between perceived social support and academic outcomes, such as test-anxiety. The findings suggested there was a positive relationship between achievement pressure placed on students and test-anxiety. This means, the higher the demand and pressure placed on students to perform at high levels, the higher the levels of test-anxiety in students across two year groups in the longitudinal study. Despite the sample size being large (6089 students aged 13-15 years), it seems that incomplete data were omitted during sampling. The data were collected across three years through a survey conducted by the Korean Educational Development Institute in Korea. Not all student responses were included in the final analysis, only those students who had responded to all measures and taken standardised tests in mathematics, English and Korean across the three years. This suggests that all sufficient data available to the authors were not used, in fact it is unclear if including students in the sample who had completed some but not all measures differed from those who had completed all, and if this would have altered the findings. For example, students who had not taken standardised tests across the three subjects may have had higher levels of stress and anxiety, despite achievement pressures, and were therefore unable to complete the tests on the day.

Wisdom (2018) suggested that teaching methods used in the build up to examinations may also influence student test-anxiety. Two of the 12 English and mathematics teachers at a high school in the USA commented on increased pressure to deliver examination content to students prior to the examination period which meant that the speed of teaching had been increased to cover topics that were needed for examinations. However, another teacher shared a technique which decreased pressure and increased student confidence levels about the test. It was suggested that "when students knew what to expect on the upcoming high-stake tests, it made them more comfortable during the testing situation" (p. 54). Wisdom (2018) used a case study approach which provided detailed information from the selected participant group of high school English and mathematics teachers in the USA, however, this approach means the findings cannot be transferred to another context and conclusions of replicated studies may differ.

Teacher Attitude. Chamberlain et al. (2011) presented findings which suggested teacher attitude towards examinations and outcomes can increase test-anxiety in students.

Students reported that the actions and attitudes of their teachers brought about frustration, including increased reminders of the upcoming examinations and emphasis on the importance and significance of the examinations. This suggested that teachers increase test-anxiety in students through their approach in the classroom. Findings from this study were based on data collected in focus groups with 19 students aged 16-19 years. The focus groups provided rich, detailed discussion, however if another data collection method was used, such as questionnaires for individual students, then triangulation would be ensured, and credibility of the research increased.

In summary, there is evidence that teacher behaviour through instruction methods and attitudes towards examinations influence student test-anxiety. Test-anxiety is alleviated when students are active in the learning process, however it increases when teachers place higher demands and pressure on students. Indeed, the way teachers approach a subject with an emphasis on the significance of examinations and outcomes will increase test-anxiety.

2.3.6   Emotional

Teacher support of test-anxiety at an emotional level was identified across five studies (Chamberlain et al., 2011; Mealey & Host, 1992; Song et al., 2015; Triplett & Barksdale, 2005; Wisdom, 2018). Across the studies students reported the emotional support teachers provided in the build up to high-stake examinations.

Chamberlain et al. (2011) reported that one student was irritated by teacher reminders of the upcoming examinations: "I am panicking, yes!" (p.198). This study had a small sample of 19 students which decreases the transferability of findings, however the authors presented contrasting perspectives of students, making outliers and differences in perspective explicit to the reader. It would be useful for future research to include teacher perspectives to provide a wider representation of the strategies used to support test-anxiety.

Mealey and Host (1992) asked students what teachers should or should not do to help them feel more relaxed and less nervous before a test. Nearly half of the students (n=46) reported wanting emotional support, for example, positive reassurance, encouragement, and acceptance to help increase confidence about preparation and performance in the test. This paper was not an original study and therefore lacks credibility. Additionally, the findings

reported cannot be transferred across contexts due to a lack of detail on the age of students and context in which the study took place.

In addition to achievement pressure, Song et al. (2015) presented findings which highlighted teachers' role in emotional support of students who took part in the surveys (6089 students aged 13-15 years). In the third year of the study, teacher emotional support related positively to test-anxiety which went against the authors' prediction. This suggested that, as students' perception of emotional support from teachers increases, so do their feelings of test-anxiety. It was concluded that perceived emotional support from teachers was not effective at increasing motivation or protective against negative academic outcomes, such as test-anxiety, in comparison to perceived academic support from teachers. An explanation for this could be that students might believe teachers see them as needing more emotional support than others due to a perceived lack of competence. This study was carried out in Korea where parental support is highly influential on student achievement and motivation in schools, therefore the context and cultural background of students participating in the study may have influenced the results. If the study was replicated in the UK, different conclusions may be reached.

Triplett and Barksdale (2005) aimed to explore student perceptions of high-stake testing using a qualitative methodology that required students (225 students aged 8-12 years) to draw and write about their experiences. Their findings indicated that teachers appeared rarely in the drawings (19/225). When teachers were present in the drawings they were described as monitor, coach, comforter, and uninterested observer. Teachers as comforters offered practical support to students by giving them chewing gum or books which could be seen to help them to manage their anxiety. On the contrary, one picture showed a child crying whilst the teacher ignored them. This study suggested that teachers have a significant role in supporting students emotionally, as well as pragmatically, through coaching and comforting to increase confidence and reduce feelings of isolation, respectively. Future research could explore the type of support students' value most. It is unclear if the conclusions from this research are transferable, and discussion of the limitations of the research are not included. Further to this, the authors asked schools to post the drawings and descriptions and did not carry out data collection themselves. This lowers the credibility of the research and therefore the weight of the findings will be limited when transferring across contexts. An additional limitation is that it was carried out in a primary school where teacher support is likely to be different to secondary schools. For instance, in secondary schools CYP are likely to have

multiple teachers, therefore they will develop different relationships with these teachers depending on many variables, such as frequency of contact time.

The findings from Wisdom's (2018) interviews suggested that several of the teachers observed students experiencing symptoms such as panic, nervousness, 'butterflies', and worry prior to a high-stake examination. There were comments on a variety of approaches teachers used to support students with these feelings, such as quietly talking to students individually, or, on the day, taking them out of the examination hall to talk to them and calm them down. One teacher spoke about a time when they went into "mommy mode" (p. 64) because a student went into "complete shutdown" (p. 64). These findings could indicate that teachers seem to provide emotional support to students by approaching them quietly and calmly, reassuring and reminding them of the things they have done to prepare. This study is an unpublished dissertation, meaning that the transferability and credibility of the findings may be limited as the paper has not been through a rigorous peer-review process to meet the requirements of an academic journal.

The studies discussed present contrasting evidence for the emotional support teachers offer students. Two studies reported negative evidence, suggesting teacher emotional support does not alleviate test-anxiety. Nevertheless, in one study students identified teachers to be comforters and coaches when supporting with examinations, and a further two studies suggest that teachers have a role in reassuring and encouraging students. This suggests that there are differences in perspectives of how teachers can support students at an emotional level.

2.3.7   Social

Three subthemes were identified for teacher support at a social level: relationships, social support, and language. First, Smyth and Banks' (2012) findings refer to the quality of student-teacher relationships. Second, five studies discuss how teachers provide social support for students in the build up to high-stake examinations (Hascoët et al., 2018; Mealey & Host, 1992; Scholze & Sapp, 2006; Song et al., 2015; Yildirim et al., 2008). Finally, three studies refer to teachers' use of language and how this has an effect on student test-anxiety (Chamberlain et al., 2011; Putwain & Symes, 2011; Smyth & Banks, 2012).

Relationships. Students reported that the quality of interactions with teachers was important when discussing what 'good teaching' looked like in the focus groups (282 14-15 year olds and 318 17-18 year olds) in Smyth and Banks' (2012) research. It is unclear from the procedure and methods what influence the researchers may have had on the students who were taking part in the focus groups as neither the transcripts or interview schedules were documented. This lowers the credibility of the study, and limits the transferability of results. Smyth and Banks (2012) concluded that using students' own agency to identify support in the build up to high-stake examinations suggests the identified preferred teaching methods are potentially more effective. It will be interesting for future research to explore this alongside a measurement of test-anxiety levels to make the link between 'good teaching' and test-anxiety explicit. The findings from this study suggested that students value teachers who treat them with respect as opposed to those who frequently use warnings or shout. There was an emphasis on how 'good teaching' included daily interactions to be approachable, positive, and caring: "helpful", "easy to talk to", "friendly" (p.299).

Social Support. Hascoët et al. (2018) aimed to examine the effects of students' perception of teacher conditional support on perception of school competence, testing the mediating effect of sensitivity to errors and test-anxiety. Teacher conditional support is when students feel loved and encouraged based on their ability to meet the expectations and standards of their teachers. This study required 524 children aged 9-10 to complete a survey. Findings suggested there was a significant positive relationship between perceived teacher conditional support and test-anxiety and sensitivity to errors, respectively. This means when perceived teacher conditional support is increased, students' test-anxiety and sensitivity to errors is increased. Additionally, findings suggested that when students perceived themselves as being more school competent, they had a decreased sensitivity to errors and decreased test-anxiety. Furthermore, sensitivity to errors and test-anxiety mediate between student perception of teacher conditional support and perception of school competence. Therefore, as perceived conditional support decreases, self-competence increases, however if test-anxiety is present then the relationship is not as strong. This study lacks transferability as it is unclear where the research was carried out, and contextual and cultural factors which may have influenced the results cannot be discussed. Furthermore, despite a recognition of the effect

size being small but consistent with previous research, it is not explicitly reported, suggesting poor quality reporting.

Mealey and Host's (1992) discussion of how teachers can support students with test-anxiety highlighted the role teachers have in social support. They reported that social support and cooperative learning with peers can reduce negative feelings around tests. However, it is important to recognise that, although cooperative learning is facilitated by the teacher, this discussion referred more specifically to the role of peer support in the learning process and the impact this has on student feelings towards tests. The evidence discussed in Mealey and Host's (1992) paper is old, therefore a more up to date discussion would be beneficial, including recent literature about the most effective ways teachers can support student test-anxiety.

Yildirim et al. (2008) investigated the impact of perfectionist tendencies, perceived social support, and academic achievement on test-anxiety in high school students in Turkey. Their findings suggested there was a negative relationship between test-anxiety and perceived social support. This means that as students' perception of social support from family, friends and teachers is higher, feelings of test-anxiety are lower. Therefore, students experience less test-anxiety when they feel they are supported by others.

Language. Chamberlain et al. (2011) highlighted how teachers' use of fear appeals influences student test-anxiety. Fear appeals are threat-based messages highlighting that a particular course of action, such as not engaging in lessons, may have consequences such as academic failure (Putwain et al., 2017). Students reported that teachers' use of fear appeals was "unhelpful and unnecessary" (p.198). The study highlighted the need to train teachers on the impact of the language they use in the classroom and how this is interpreted by students.

In support of Chamberlain et al. (2011), Putwain and Symes' (2011) findings suggested that fear appeals can have a negative effect on test-anxiety. They reported that fear appeals were interpreted as threatening by students. The study aimed to examine whether teachers' use of fear appeals influences student motivation, test-anxiety, and fear of failure. The methods involved a longitudinal survey with 132 students aged 14-15 years. The findings suggested there was a positive correlation between test-anxiety and fear appeals for year 11s. Additionally, perceived threat of fear appeals increased both components of test-anxiety (worry and emotionality) for year 10s. Furthermore, when fear appeals were perceived as

threatening, students were more likely to experience test-anxiety in the future. It is important to consider that fear appeals only had a negative effect on test-anxiety when they were perceived as threatening, therefore individual differences of students, such as perceptions of parental support or academic ability, will have had an influence on the way they perceive messages given by teachers. This study was carried out in a UK secondary school meaning the transferability of findings is possible. However, the use of surveys as the data collection method means that the responses from participants, in this case students, will have been limited to the answer choices provided in the survey and may not have been an accurate reflection of their true feelings.

Scholze and Sapp (2006) concluded their discussion by suggesting that teachers should start a dialogue with multi-cultural students about their test anxiety. As such, enabling students to discuss unhelpful thoughts will be an important step in challenging and confronting negative thoughts about testing situations. The limitations of this paper need to be considered before transferring conclusions across contexts. The paper focused on multi-cultural learners in America, and there are a limited number of references used to support the claims in the paper, therefore limiting the trustworthiness of the conclusions.

Smyth and Banks (2012) reported findings from focus groups with secondary school students in the Republic of Ireland. Their findings suggested that constant reminders and messages from teachers about upcoming examinations increased feelings of stress and anxiety. Students commented about how they felt teachers were trying to frighten them. This mixed methods study provides support for how teacher language could have a negative effect on student test-anxiety.

In summary, teachers' use of social support could be key to alleviating test-anxiety. Firstly, supportive teacher interactions are valued by students. Indeed, the more perceived social support from teachers, the lower student reports of test-anxiety. Finally, discussion of teacher support at a social level highlights the significance of how teachers communicate with students in the build up to high-stake examinations, suggesting that the language of fear appeals can increase feelings of test-anxiety.

2.3.8 *Motivation*

Teacher role in supporting test-anxiety at a motivational level was referenced in four studies (Chamberlain et al., 2011; Raufelder et al., 2018; Smyth & Banks, 2012; Triplett & Barksdale, 2005). The studies refer to ways in which teachers motivate students towards upcoming examinations, or have the opposing effect where students are likely to feel more test anxious.

Findings from Chamberlain et al.'s (2011) research suggest that teachers do not have a role in supporting students with test-anxiety when it comes to the use of fear appeals. Previous research suggested that teachers use fear appeals to motivate students towards their upcoming examinations (Putwain & Roberts, 2009), however Chamberlain et al. (2011) found students reported more anxiety and frustration rather than motivation to work when teachers used fear appeals, in fact "fear appeals appeared to have no positive effect" (p.198) on student motivation.

Raufelder et al. (2018) also reported evidence suggesting that teachers do not provide support for test-anxiety. The study aimed to examine whether students' perception of teachers as positive motivators (TPM) moderates the association between test-anxiety and learned helplessness. This study involved 845 students aged 13-17 years completing a survey. Findings suggested that TPM did not decrease feelings of test-anxiety and helplessness in school. Students were more likely to feel helpless if they generally found it difficult to manage their emotions and were more dependent on teachers. This suggested that "socio-motivational support from teachers in itself is not enough to protect test-anxious students from the detrimental emotional states and the related negative outcomes they experience in the face of current, competitive educational settings" (p.66). It would be useful for future research to explore students' views about how teachers can motivate them for upcoming examinations.

In contrast, Smyth and Banks' (2012) findings stated how teachers do have a role in motivating students in the build up to examinations. They found students reported teachers' enthusiasm and love for the subject they were teaching was a "crucial" motivator for students. Teachers can support students with the increased pressure and feelings of stress around high-stake examinations by using students' preferred teaching methods. The study included a quantitative survey with 897 14-15 year olds and 748 17-18 year olds, and qualitative focus groups consisting of six students per group (282 14-15 year olds and 318

17-18 year olds), suggesting the data gathered from students can be triangulated. However, to increase the credibility of the study the authors could present the findings from the interviews with key staff members as this information appears to have been omitted in the final study.

In addition to the comforter role, Triplett and Barksdale (2005) reported that students drew and described teachers as coaches, providing motivational comments and wishing good luck to students in the build up to examinations. Due to the limited number of students drawing and writing about teacher role in the build up to examinations (19/225) there is limited data to support this. Further reflection on this study suggests that future research could consider explicitly asking students to share their perspectives on teacher role in the build up to high-stake examinations. In addition, the sample of students were aged 8-12 years, therefore the sample may not be a true representation because high-stake examinations are likely to take place later in education for students, where examinations are expected to have more meaning and have an influence on future outcomes, such as university applications and job prospects.

There is conflicting evidence presented about how teachers motivate students towards examinations. In the first instance negative evidence is discussed, suggesting that despite teacher attempts to motivate students their approach does not evoke the desired effect. However, two studies present evidence for the critical role teachers play in motivating students. It is unclear from the research presented how teachers using motivational techniques have an influence on student test-anxiety.

2.3.9   Environmental

Teacher support at an environmental level was identified across four studies (Chamberlain et al., 2011; Scholze & Sapp, 2006; Triplett & Barksdale, 2005; Yildirim et al., 2008). At this level, the studies identified how environmental factors within the microsystem (family, school and peers) and exosystem (government, political and educational systems) (Bronfenbrenner, 1979) have an influence on test-anxiety for students.

Findings from Chamberlain et al. (2011) suggested that levels of test-anxiety on the day of an examination are influenced by the examination environment such as "timetabling issues, school policies relating to the arrival of students, and the time available to complete the

examination" (p.197). This research was based on student self-report which gives a detailed insight into student experiences during examinations. Students also commented on the role parents have in the build up to examinations, suggesting the importance of the microsystem (Bronfenbrenner, 1979) pre-examinations and parent-student relationships.

Scholze and Sapp (2006) referred to a teaching approach named the comprehensive support model in their discussion of approaches that work to support multi-cultural learners in the classroom. The model mirrors Bronfenbrenner's (1979) bioecological systems theory and the multiple levels of influences are highlighted. It incorporates aspects of the self, families, schools, community, and government. Scholze and Sapp (2006) suggested that this model should be used when implementing relaxation strategies to support students with test-anxiety at school, parent and individual level.

Triplett and Barksdale's (2005) findings from the drawings and written descriptions by students raised issues of power and politics (15/225). One child referred to the state knowing too much information about student test results. A second child stated it was the president's fault they had to take examinations, and a third promoted political action in the form of a protest against testing. This is a surprising finding considering the students were aged between 8-12 years and tests are not high-stake in primary school compared to secondary school environments. However, the USA political system may differ from the UK and may be why these findings arose. It seems from these results that students have an awareness of how the exosystem (Bronfenbrenner, 1979) can have an impact on their testing experiences at school, such as government, education and political systems. It would be interesting to explore children's views of their testing experiences further. The data collection was carried out by the teachers at the school, and drawings and written comments were posted to the researchers, therefore the dynamics between teachers and students could be identified as a limitation.

Research by Yildirim et al. (2008) supported the claim that the microsystem influences student test-anxiety. They suggested that peer-student relationships and teacher-student relationships have a significant negative relationship with test-anxiety. This means that as students' perceptions of peer support and teacher support increases, their levels of test-anxiety reduce. They concluded there is a need for the combination of teacher, parent, and peer support in order to remove barriers to academic achievement, such as test-anxiety. This research was carried out with high school students in Turkey, therefore cultural differences,

such as differences in the education system or parental pressures, must be considered before transferring the findings to the UK context.

Evidence from the studies discussed suggests there are multiple environmental influences on student test-anxiety. Across the varying environmental levels, the close relationships between students and adults within the microsystem have a strong influence on their experiences of test-anxiety, as well as the wider stretching influences within the exosystem, such as political and government systems. It will be interesting to explore this further to understand if the relationships within the mesosystem and macrosystem of Bronfenbrenner's (1979) bioecological systems theory could have an influence on student test-anxiety.

2.4   Discussion

2.4.1 Overall Summary of Findings

Researchers have suggested that teachers have a role in supporting student test-anxiety, yet there is limited research that focuses primarily on how teachers support this in schools. In total, 12 studies were identified for the review. Although there were only a small number of studies included within this review, the studies represent a wide variety of approaches used by teachers to support student test-anxiety. The studies presented were carried out across different countries and provided evidence for how teachers have a role in reducing or increasing test-anxiety. The findings from the studies were linked to an existing framework, the IFF (Morton & Frith, 1995) (see Figure 3), which aims to capture information across different levels. The current review considered how teacher support for test-anxiety fits within six broad categories: cognitive, behavioural, emotional, social, motivational, and environmental. This framework also links to Bronfenbrenner's (1979) bioecological systems theory which considers the multiple influences in CYP's development and the complex system of relationships with the surrounding environment, in this instance the way in which teachers support students with test-anxiety.

All included studies presented findings of the significant role teachers have in supporting students with test-anxiety. However, there is contradictory evidence across the included studies about how teachers alleviate or, surprisingly, increase test-anxiety in students. This could be for a variety of reasons as the studies present data from different aged samples,

research methods, and cultural contexts which were not limited during the literature searches. Eight studies present evidence that teacher support can reduce test-anxiety (Bas, 2016; Hascoët et al., 2018; Mealey & Host, 1992; Scholze & Sapp, 2006; Smyth & Banks, 2012; Triplett & Barksdale, 2005; Wisdom, 2018; Yildirim et al., 2008). This is consistent with previous research which suggested social support offered by teachers, such as building connections and trusting relationships with students, is likely to reduce feelings of test-anxiety (Martin & Marsh, 2008; Ringeisen & Raufelder, 2015). However, six studies also presented evidence that suggests teacher support can increase test-anxiety in students (Chamberlain et al., 2011; Putwain & Symes, 2011; Raufelder et al., 2018; Scholze & Sapp, 2006; Smyth & Banks, 2012; Song et al., 2015). The negative effect teachers can have on test-anxiety is discussed in previous research by Denscombe (2000) whereby it was explained that teachers amplify feelings of stress amongst students.

In the current review, the most common approach used by teachers to support student test-anxiety was identified at a social level. This level of support was found across eight studies. Two of these papers were secondary sources and did not include a participant group. The informants for six of these studies were students, therefore highlighting the importance of relationships and the interaction between students and teachers. Thus, emphasis should be placed upon these findings that suggest students value social support from their teachers. A recent study in the USA revealed student perception of teachers' prosocial behaviour and socio-emotional support are important for student wellbeing and promoting relationships in the classroom (Prewett et al., 2019). Although there are cultural differences between the USA and UK education system which limit the generalisability of these findings, the findings strengthen the argument that increased social support in the classroom will help improve student wellbeing. This is supported by previous research which found that positive student-teacher relationships are critical to CYP's developmental and academic trajectories (McGrath & Van Bergen, 2015; McHugh et al., 2013). Rosenfeld et al. (2000) claimed that perceived high supportiveness from teachers, peers and parents leads to better outcomes for middle and high school students. Despite this, Rosenfeld et al.'s (2000) research is two decades old and based in the USA which limits the credibility of findings in a UK population.

Consistent with the test-anxiety intervention literature, multiple approaches used to support students with test-anxiety could be recommended following this review. For example, Chamberlain et al.'s (2011) findings suggest that in order to increase student motivation, if fear appeals are used they should be in conjunction with motivational messages, and social

support to alleviate test-anxiety in students. This fits succinctly with the multi-level model used to synthesise the studies in the current review (IFF, Morton & Frith, 1995). The framework enables an interactive approach where varying factors should be considered to provide a holistic approach. Thus, social, emotional and motivational support could be provided by teachers in order to effectively support students with test-anxiety in schools. However, individual characteristics of students and the environment in which the support is being offered should be monitored and adapted depending on student views.

2.4.2   Strengths and Limitations

There are several strengths and limitations in the current review. Firstly, I will discuss the strengths and limitations of the included studies, with reference to the quality assessment. Secondly, I will discuss the strengths and limitations of the review process itself to understand the robustness of the current review.

Included Studies. Firstly, only one study took place in the UK, therefore it is possible that the findings from eleven studies are not transferable to the UK context. This is due to differences in schooling and culture, for example, the value of teacher support may not be as high in non-UK countries such as Hong Kong where there is an increased emphasis on parent role (Sung et al., 2016). However, it was also identified in previous research that parents have a key role in supporting students with test-anxiety (Davies, 2017), even in the UK (Flitcroft & Woods, 2018).

Secondly, only three out of the 12 studies used qualitative methods, and the mixed methods study was the only study to further interview students following self-report questionnaires to explore student views. Qualitative interviews allow for the data gathered to provide an in-depth and detailed picture of the experiences of interviewees (Ritchie et al., 2013). This means that the data gathered from the six quantitative studies may lack detail as the scales and questionnaires used may not have allowed students to develop their thoughts and responses, and important and relevant information may have been missed. Furthermore, the use of self-report in the studies means that social desirability needs to be recognised as a limitation of this method, where responses may be invalid if students responded based on answers they felt were socially acceptable. However, the students are close to the issues being

discussed and, arguably, are likely to give more accurate responses (Demetriou et al., 2015) which is a strength of the included studies.

Thirdly, there is a varied age range of students participating across the studies (8-19 years). It is important to consider the definition of high-stake examinations (see 2.1.1). This could be seen to be a subjective term where the school context and accountability may have an impact on how high-stake the examinations are for the students and their feelings of test-anxiety. Putwain (2007b, 2009) reported that in secondary schools, examinations cause worry and stress for students, however the significance of examinations is unclear for primary school aged students. Test-anxiety has been reported by children as young as seven (Connor, 2003), in fact some primary school children in the UK reported they felt under pressure to take their SATs as they affect future prospects (Hutchings, 2015). However, for secondary school students, examinations come at a significant time in their lives. Adolescents will be experiencing puberty, transition, variable relationships with peers and parents, and beginning to establish a sense of self and identity (Collins & Steinberg, 2007; Denscombe, 2000). Additionally, the school environment, for example, time and achievement pressures, and high expectations increases stress for students (de Anda et al., 2000). Denscombe (2000) argued that GCSEs presented a different, more meaningful challenge than SATs. GCSEs were the gateway to further qualifications and career opportunities, and this was amplified by students reporting that GCSEs "could be used as a measure of a person" (Denscombe, 2000, p.369). Despite being two decades old, this research suggests that examinations are viewed as a significant source of stress by CYP. This was recently endorsed by Pascoe et al. (2020) who acknowledged that students commonly report academic related stress, for example worries about receiving unsatisfactory results and pressure to achieve highly.

Review Process. I will now discuss some of the strengths and limitations that have been identified in the review process. Firstly, a limitation to the current review is reflected in the development of the inclusion criteria. The publication requirements of the included studies were initially limited to those published in peer-reviewed journals, and unpublished theses or dissertations. Following the initial searches, it was important to expand the inclusion criteria and include unpublished full-text theses, book chapters and other non-peer reviewed work because there were a limited number of studies that met the criteria. This also decreased publication bias of the review as no relevant literature was omitted during the screening process. In addition to the publication requirements, the included studies were

limited by language to those available and written in English. It may be useful for a future systematic literature search to expand the criteria to include studies written in multiple languages. This could reveal any additional and potentially relevant research that may have been excluded in the current review. This would be important as it seems much of the test-anxiety literature prior to the 2000s took place outside of the UK, initially in North America and since the 1970's throughout Western Europe and the Middle and Far East (Putwain, 2007b), some of which are non-English speaking countries, thus limiting to English language only may have implications.

Secondly, the choice of framework used for the synthesis of findings follows a 'best-fit' framework (Dixon-Woods, 2011). The framework was initially deductive, yet the process allowed for the addition of three new themes that were developed during the synthesis process: social, emotional, and motivational. The IFF (Morton & Frith, 1995) categorises information at a biological level, however teacher support at this level was not identified in the included studies. This suggests that further relevant approaches to teacher support of test-anxiety may not have been identified in the included studies. For example, calming techniques, such as breathing exercises or mindfulness which encourage a focus on physical feelings, could be identified as support at this level. On the contrary, this may have shifted the focus of the review towards wider, recognised interventions rather than specifically teacher support, thus not directly answering the review question. In practice, educational psychologists (EPs) use planning models such as the IFF (Morton & Frith, 1995) to identify gaps in knowledge and where further information needs to be sought, therefore it was deemed that the use of this framework was appropriate.

Thirdly, the review process allows for the identification of current literature on the topic of teacher support of test-anxiety. This was then quality assessed to highlight any limitations of the research presented in order to answer the review question. The synthesis of studies has led towards a description and summary of the included studies. This is a potential weakness of the review process as the information reported does not necessarily extend knowledge in the topic area (Xiao & Watson, 2019) and the findings included were selected and specific to the review question which meant the reporting of findings could be seen to be bias (Garg et al., 2008). However, the review still meets the definition of a systematic literature review proposed by Booth et al. (2016, p.11): to identify, appraise and synthesise evidence relating to a specific research question. Descriptive reviews are the most common and are used to assess the evidence available in order to answer the proposed review question, therefore

aiming to provide an account of the current literature at the time of the review (Xiao & Watson, 2019).

Finally, criticality of the reviewer effects should be acknowledged. Throughout the review process, I made value-laden decisions through the development of the inclusion and exclusion criteria, and the quality assessment. Indeed, Sandelowski (2008) reported how systematic literature reviews reflect individual perspective and preferences of the reviewer, thus describing systematic reviews to be based on disciplined subjectivity. To further overcome this and increase transparency, the methods were described explicitly (Booth et al., 2016).

2.4.3   Future Research

The current review highlights the need for further exploration of how teachers support student test-anxiety. Apart from two studies that included teacher views, all studies relied on student self-report. To further understand teacher role in supporting test-anxiety it would be useful to explore teacher views as this is limited within the included studies. An exploration of the role of significant adults in CYP's lives, such as parents and carers, could extend findings further to gain an insight into the most supportive approaches for student test-anxiety within Bronfenbrenner's (1979) microsystem. Future research should also consider the mesosystem (Bronfenbrenner, 1979) with the aim of understanding how different contexts and environments may support students with test-anxiety, such as a whole school ethos and approach to examinations. This is important as it has previously been shown that the school environment is crucial to providing mental health interventions for CYP in order to act as a preventative measure later in life (van Loon et al., 2019).

2.4.4   Implications for Educational Psychologists

EPs have been identified as well placed to raise awareness of positive mental health in schools through training and intervention (DfE, 2018). Working with CYP, families and schools enables EPs to tailor support to individual need using theoretical and psychological knowledge to influence change and improve understanding (Hughes, 2000; Law & Woods, 2018; Splett et al., 2013; Sundhu & Kittles, 2016). Indeed, this systemic role enables EPs to disseminate psychological theory and knowledge to educate teachers (Flitcroft et al., 2017;

Forrest et al., 2019). Yet, it is clear there are implications in terms of sufficient time for EPs to carry out this type of work (Atkinson et al., 2014; Hoyne & Cunningham, 2019). It is vital to identify the gaps in teacher knowledge and understanding of examination pressures and test-anxiety to better support students (Atkinson et al., 2019; Urhahne et al., 2011) to utilise the unique EP role. Within the included studies, how teachers increase feelings of test-anxiety in the build up to high-stake examinations is highlighted. In order to alleviate test-anxiety, EPs must act as student advocates (Buck, 2015; Tellis-James & Fox, 2016) to inform schools and teachers of what works, and the challenges faced by CYP. This could be done in consultation with teachers using strengths based psychological models such as, appreciative inquiry (Gordon, 2008), personal construct psychology (Kelly, 1991), and solution focussed thinking, to influence change (Egan, 2013; Wagner, 2000).

2.4.5   Phase One Conclusion

In conclusion, although there are contradictory findings in terms of teacher support either alleviating or increasing student test-anxiety, it is clear from the findings that teachers do have a role to play. This emphasises the significance of Bronfenbrenner's (1979) microsystem on CYP's development, in this instance the way in which teachers support students with test-anxiety. The teacher role is identified at multiple levels where teachers provide practical supports, motivational supports, study skills, and help students at an emotional level. The findings of this review are suggestive that the most significant role teachers have is related to how they develop relationships with students and communicate with them effectively at a social level. Nevertheless, teachers could offer multiple layers of support to students and adapt this depending on the individual. Therefore, it is imperative that teachers and education professionals have an increased understanding of student test-anxiety and are upskilled and empowered to support students with their upcoming examinations.

Chapter 3: Phase Two Empirical Study

3.1   Introduction and Linking Section

In this section I will explain the link between phase one and phase two of the current research. I will begin by revisiting the definition of test-anxiety described in phase one, and give an explanation of the terms used in phase two. Next, I will reflect on the systematic literature review in phase one, and present the context of phase two of the research with reference to the relevant literature.

3.1.1   *Definitions and Terminology*

Generalised Anxiety. According to the diagnostic and statistical manual of mental disorders (DSM-5), generalised anxiety disorder is excessive worry about everyday issues for at least six months which cause distress or impairment, including physiological symptoms such as restlessness, irritability, and muscle tension (NICE), 2021). Generalised anxiety is comorbid with depression and social anxiety (Gale & Davidson, 2007; Tyrer & Baldwin, 2006), as well as test-anxiety (Beidel & Turner, 1988; Putwain et al., 2021). Yet, test-anxiety is not mentioned in the DSM-5, rather it is recognised as a situational anxiety where feelings of anxiety could relate to an upcoming examination (NICE, 2021).

Test-Anxiety. It is claimed in the literature that test-anxiety occurs on a continuum or spectrum where experiences of test-anxiety can vary (Carsley & Heath, 2018; Howard, 2020; McDonald, 2001). This is supported by current theoretical models of test-anxiety that have been developed to take into account social and environmental influences on test-anxiety, as well as within-child variables (Lowe et al., 2008; Segool et al., 2014). As such, individual characteristics and experiences of CYP are likely to have an influence on feelings of test-anxiety.

As discussed in 2.1.1, test-anxiety is consistently defined as multi-dimensional and is made up of two components: worry and emotionality (Friedman & Bendas-Jacob, 1997; Liebert & Morris, 1967; Pourtaleb et al., 2018; Putwain et al., 2014; Putwain, 2007b; Putwain & Daly, 2013; Ringeisen & Raufelder, 2015). Worry refers to negative expectations, such as failure and its consequences, and emotionality refers to high-arousal of the nervous system

(Friedman & Bendas-Jacob, 1997). I will refer to this definition of test-anxiety to ensure consistency in the terminology used across both phases.

Covid-19. Another term that will be used frequently throughout phase two is 'covid-19'. Covid-19 is "an infectious disease caused by a newly discovered coronavirus" (World Health Organisation (WHO), 2020) and has triggered a global pandemic. Within the current literature on covid-19, the terms 'covid-19' and 'coronavirus' are used interchangeably. In this thesis, I will use the term 'covid-19' which will explicitly refer to the current covid-19 global pandemic.

3.1.2   *Reflection on Phase One*

In phase one, I carried out a systematic literature review to address a gap in the literature about how teachers support students with test-anxiety. This was achieved by using a systematic approach and critical appraisal to summarise and evaluate the research that is currently available. The review involved an extensive search of the literature to understand the role of the teacher. Engaging in this research method enabled me to gain a greater understanding of the available literature on teacher support for student test-anxiety. Early in the process, the literature searches indicated that there was limited research available on this topic when refined to primary research, in the context of the UK and secondary school students taking GCSEs. Therefore, I extended my searches to include international studies across the context of all education settings (up until college but excluding university). I also included secondary research, such as discussion papers, and unpublished full texts, such as theses. I did not use the quality assessment to exclude studies but rather to understand the methodological quality, appropriateness and focus of the papers in the review.

I used a framework synthesis based on the IFF (Morton & Frith, 1995) to draw together the findings from the included papers. Following the synthesis of evidence, I concluded that commonly teachers offer support to students at a social level. This conclusion stresses the importance of building relationships and communicating with students to alleviate feelings of test-anxiety. Additionally, the findings suggested that teachers have a role in supporting students with test-anxiety at multiple levels. This was commonly found in the included

studies where the authors discussed the most effective ways of supporting students were to combine multiple strategies, such as teaching study skills, motivating, and offering emotional and social supports. Interestingly, from the synthesis of studies it could be concluded that teachers can both increase and alleviate test-anxiety.

The findings from phase one helped to identify the role played by teachers in supporting students with test-anxiety prior to the covid-19 pandemic. Consequently, phase two aimed to explore the experiences of teachers in the specific context of a pandemic. This was following the cancellation of examinations in the UK in 2020 and the uncertainty about future examinations (Coughlan, 2020a, 2020b; DfE, 2020a, 2021a). In addition to exploring teacher views, EP views were gained to understand their experiences of supporting schools with student test-anxiety prior to and during covid-19, with the aim to plan future support in schools.

3.1.3   Current Context

The current covid-19 context is novel and unique; therefore, it is important to understand what the previous literature tells us about the impact of school closures and the experiences of CYP and their families during a period of home-schooling enforced by the government. This is important as this is the context in which the current study was carried out, therefore understanding more about school closures and the strengths and challenges of this is critical, before moving on to discuss test-anxiety more specifically. In this section I will also introduce some literature that discusses the increased concerns about mental health difficulties currently in schools during covid-19.

There has been limited research on school closures and pandemics during outbreaks of influenza and bird flu (Aledort et al., 2007; Cauchemez et al., 2009; Ferguson et al., 2006; Heymann et al., 2004; WHO, 2005). Throughout covid-19, schools closed for around six months in total while remaining open for vulnerable children and children of key workers (DfE, 2021e). In research prior to the covid-19 pandemic, Ferguson et al. (2006) suggested that the closure of schools had little impact overall on the spread of viruses, however it did have an impact on the rate of spread during peak times. Yet, it was recognised by others that school closures were moderately effective at reducing transmission of viruses, particularly when the most affected population was children (Glass & Barnes, 2007; Heymann et al.,

2004; Sadique et al., 2008). These findings indicate there is no consensus on the benefits of closing schools, in fact it has been recognised that there are higher economic and social costs following school closures (Cauchemez et al., 2009; Cowling et al., 2008; Sadique et al., 2008). It has been highlighted there is an unequal access to technology in both Finland and the UK (Iivari et al., 2020; Watts, 2020). Gross and Opalka (2020) reported that following school closures in the US, there was an expectation for teachers to provide learning online. However, this highlighted a digital divide in the population, meaning that students in smaller, rural districts were likely to fall behind in their education due to limited access to online learning. However, there have been some notable strengths following the increased use of technology, including improved technology skills and opportunities for more creative learning (Bubb & Jones, 2020; Education Endowment Foundation (EEF), 2020a).

Johnson et al. (2008) reported findings from a survey that suggested most parents felt school closures were appropriate during an outbreak of influenza in North Carolina. However, at this time parents were not concerned about the risk of hospitalisation or death for their children. It would be interesting to know if these findings were consistent with parents' current views on the outbreak of covid-19 in the UK. Currently, there is limited research about pandemics and parent experiences of school closures and home-schooling (Thorell et al., 2021). It was concluded by Aledort et al. (2007) that policy recommendations should rely on expert opinion due to the limited scientific evidence-base available. It would be interesting to explore the impact of school closures on CYP's learning and achievement in future research. More recently, Jefferson et al. (2020) conducted a rapid systematic review to understand the effects of physical interventions on virus transmission. They concluded that physical interventions, such as the use of masks, distancing measures, and school closures, might help prevent the spread of air-borne viruses. However, this review did not include results from studies that were carried out since the start of covid-19 and the omission of these results may decrease the transferability and relevance of the results reported.

There has been some research carried out during the covid-19 outbreak which has suggested there has been a significant impact on CYP's mental health and wellbeing (Bhopal & Myers, 2020; Young Minds, 2021). This research was carried out whilst schools were still closed, prior to a phased return in July 2020 (Bhopal & Myers, 2020), therefore the initial shock and uncertainty around covid-19 may suggest the findings in this study could appear accentuated due to the time in which it was carried out. It would be interesting to explore student views

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about the impact of cancelled examinations in subsequent lockdowns and school closures to understand if the impact on CYP's mental health was still significant. Some CYP appear to be at even greater risk of increased mental health difficulties due to covid-19, including those who are disadvantaged, such as having existing mental health difficulties or low socioeconomic status, and CYP who are marginalised, including unaccompanied and accompanied refugees (Fegert et al., 2020). These mental health difficulties include depression, anxiety, and loneliness (Loades et al., 2020), and post-traumatic stress (Brooks et al., 2020; Loades et al., 2020), brought about by feelings of uncertainty (Rettie & Daniels, 2020), isolation, and social distancing measures (Brooks et al., 2020, 2020; Fegert et al., 2020; Joseph, 2020; Orgilés et al., 2020). Yet, for some CYP there have been reported benefits to school closures, such as the opportunity to have more family time and the cohesion and adaptability of communities around families (Neece et al., 2020). Additionally, for children with a diagnosis of autism spectrum condition (ASC), parents reported reduced levels of stress for their child due to a lack of exposure to stressful situations, such as a reduced number of transitions, and reduced academic pressures which were identified challenges for CYP with ASC (Berard et al., 2021).

Consequently, there appear to be increased concerns about mental health difficulties rising during pandemics and there is an increasing amount of research being carried out to understand this further. I will now discuss the limited evidence available on the impact of a pandemic on student test-anxiety.

3.1.4   Covid-19 and Test-Anxiety

To date, there has been little research in the UK that considers the influence of covid-19 on test-anxiety in secondary schools. One study by Hemanth (2020) carried out whilst schools were closed explored the effects of changes in social interaction on mental health during covid-19 for GCSE and A level students. Overall, their findings suggested there was an increase in anxiety, fear of failure, lack of motivation and loneliness amongst students. More specifically to examinations, they reported that examination stress had reduced amongst students following the cancellation of examinations, however this anxiety had shifted towards worries about the health of friends and family, and uncertainties about the future (Hemanth, 2020; Young Minds, 2021). Furthermore, students reported concerns about the lack of

closure that examinations often bring, suggesting a decrease in motivation and a lack of independent learning during lockdown. It would be interesting to explore if the students due to take their examinations following covid-19 will report similar concerns, or if the findings would differ if the survey was carried out once schools had reopened. Overall, Hemanth (2020) presented findings that suggested test-anxiety is currently less of a concern for students, however these anxieties could be placed elsewhere due to a sense of uncertainty brought about by the pandemic.

There has been some research conducted outside of the UK during covid-19 which considers test-anxiety. Elsalem et al. (2020) reported that university students in the US had increased stress levels around remote e-examinations during covid-19. This included stress about examination duration, navigating online systems and technical problems. Another non-UK study was carried out by Sakka et al. (2020). Their research with Greek adolescents aimed to understand the impact of covid-19 on test-anxiety and resilience. They found that by enhancing resilience within the home and school environment, adolescents were better able to cope with test-anxiety.

In conclusion, within the limited research that is currently available, there are still anxieties and concerns present for students due to take examinations, but their experiences are different in the current context, for example, examinations have been moved online which presents them with new challenges (Elsalem et al., 2020). Furthermore, the importance of increasing resilience and protective factors has been stressed with the aim of supporting students not only with test-anxiety but increasing positive wellbeing (Sakka et al., 2020). However, the cited research was not UK based and a difference between cultures must be considered before transferring these findings across contexts. Finally, findings from research in the UK during covid-19 suggested there is anxiety and stress amongst students, yet this is not currently linked to examination experiences (Hemanth, 2020; Young Minds, 2021).

3.1.5   Educational Psychologist Role and Test-Anxiety

EPs have a role in supporting schools with mental health and wellbeing as stated in current legislation (DfE, 2015, 2018). A recent survey with 19 Scottish educational psychology services (EPSs) by Greig et al. (2019) concluded that EPs have a role in relation to the mental health of CYP, and that within services there should be a strategy to support schools with

mental health needs. Yet, it was noted that there was a discrepancy between how EPs viewed their role as a profession, and how the EP role was seen within the wider community (Greig et al., 2019). The lack of consensus to define the EP role has previously been recognised in the literature (Ashton & Roberts, 2006; Stobie, 2002) and remains a challenge when defining the EP role in mental health support in schools.

The role of the EP with regards to test-anxiety may also be difficult to define. In the first instance, it is useful to consider EP knowledge of test-anxiety. There is some evidence that EP knowledge of this topic needs increasing in order to work proactively and preventatively with schools to support CYP with test-anxiety (Scott et al., 2018; von der Embse et al., 2013). von der Embse et al. (2013) suggested that increased understanding of test-anxiety was needed beyond what is currently known by EPs which reflects the lack of evidence currently available on this topic, and highlights a lack of understanding about the EP role and test-anxiety. In support of the need to increase EP knowledge of test-anxiety, Raymo et al. (2019) reported that the benefits of increased knowledge would be that EPs could help identify CYP with test-anxiety and recommend further intervention where necessary. To date there has been no research that asks EPs about their knowledge of test-anxiety, therefore in future research it would be useful to know if EPs feel well-equipped and able to support schools with this, and if increased knowledge of this topic would be beneficial.

EPs have an understanding of adolescence, education, testing, and mental health which could be useful in offering specialist support in schools for test-anxiety (Flitcroft et al., 2017; Gregor, 2005; Putwain, 2008c; Putwain & Daly, 2014; von der Embse et al., 2013). To implement this support, EPs could use their psychological skills via training, assessment, intervention, consultation, and research (Fallon et al., 2010) to increase teacher knowledge and understanding of the topic. Therefore, EP skills must be developed and utilised to support schools with test-anxiety in the future.

There is currently no research that explores the EP role and test-anxiety that has been carried out during covid-19. Therefore, highlighting that more research is needed to understand the unique role of the EP. In the current study it will be interesting to explore EP experiences of supporting schools with test-anxiety to contribute to our current understanding of this topic within the literature.

3.1.6   *Rationale and Aims*

At present, there is no published research available regarding support for student test-anxiety within the context of a global pandemic. As explored in phase one, there is a lack of research in the test-anxiety literature in general. Therefore, this research aims to be an important addition to our knowledge of teacher and EP support for test-anxiety during a global pandemic.

Phase two of this study had two overall aims. Firstly, to explore teacher experiences of supporting students with test-anxiety in the context of a global pandemic. Secondly, to explore educational psychologists' experiences of supporting test-anxiety in schools and how these experiences can be used to inform support for test-anxiety in schools following a pandemic.

The following research questions were developed based on the aims of this phase.

1. What are teacher experiences of supporting students with test-anxiety in the context of a pandemic?
2. What are teacher views of how test-anxiety support could be improved following a pandemic?
3. How can educational psychologists' previous experiences of supporting schools with test-anxiety inform future support for test-anxiety following a pandemic?
4. What are educational psychologists' views of the barriers to supporting schools with test-anxiety following a pandemic?

3.2   Methodology

3.2.1   Philosophical Assumptions

This research adopts an interpretivist stance and uses a qualitative research design in accordance with my philosophical assumptions. Figure 4 illustrates my philosophical assumptions and the associated research process. Qualitative researchers must adopt a rigorous and transparent methodological approach (Wu et al., 2016). Thus, to increase transparency it is essential to make the reader aware of my objectives, values, assumptions, and external influences (Creswell & Poth, 2016; Gemignani, 2017; Morrow & Brown, 1994). By adopting the interpretivist view, the decisions I make throughout the research process will be influenced by my beliefs (Edge & Richards, 1998). It is essential that my positionality is

made explicit from the outset (also see 1.1) in order to acknowledge that the data required interpretation by the researcher and cannot be value free (Scotland, 2012).

In this research, I believed that educational professionals, namely teachers and EPs, had a role in supporting students with test-anxiety. I did not have a clear view about what this support for students would look like, thus my views remained neutral with the assumption that teachers and EPs could have multiple roles. My research questions and analysis reflect this. The trustworthiness of this research is increased due to the exploratory nature of this study which enabled me to explore participant views within the interviews and accept participant responses at face-value in the analysis stage.

It is critical that I explain my approach in more detail and consider the limitations of interpretivism with reference to the literature. Ontology is "the study of being" (Gray, 2008, p.16), namely understanding the reality and truth of existence. Within interpretivism, the ontological position recognises that there are multiple realities that differ between people and meaning is constructed in different ways (Mack, 2010). Furthermore, interpretivists aim to gain an understanding of individual perspectives based on an exploration of participants' direct experiences (Creswell, 2009; Mack, 2010) through participant and researcher interactions (in this study exploring teacher and EP experiences of supporting students with test-anxiety during a global pandemic). The interpretivist epistemological view is that of subjectivism, meaning that the world is not independent of our knowledge but rather is created through our interactions with it (Scotland, 2012). Reasoning within this view is grounded in the data and is therefore inductive (Gray, 2008; Mack, 2010; Scotland, 2012). Semi-structured interviews were conducted with teachers and EPs which enabled a greater depth and exploration of interviewee views using open-ended questions to encourage debate and discussion. A thematic analysis of the qualitative data collected was then carried out to understand how the interviewees made sense of their experiences, and how social contexts influence this (Braun & Clarke, 2006). This approach enabled me to look at the data thoroughly and shifted my thinking towards the environment and interviewee views, rather than my own presumptions (Mack, 2010). It is important that the data collected should seek to understand participant experiences rather than explain or give reason (Mack, 2010). A key criticism of interpretivism is that findings cannot be transferred to other contexts and are specific to the population of participants interviewed (Mack, 2010; Scotland, 2012). It is particularly important to take this into account in this study because the teachers and EPs

interviewed were in a unique position due to experiences during the covid-19 pandemic. However, qualitative research does not aim to generalise other situations but instead enables greater exploration and a deeper understanding of a specific social context (Pham, 2018). Gaining a greater understanding about the topic, in this instance test-anxiety, can provide a basis from which others can decide to what extent these findings can be made sense of and are alike or different from their situation.

Figure 4

Philosophical Assumptions and Research Process.
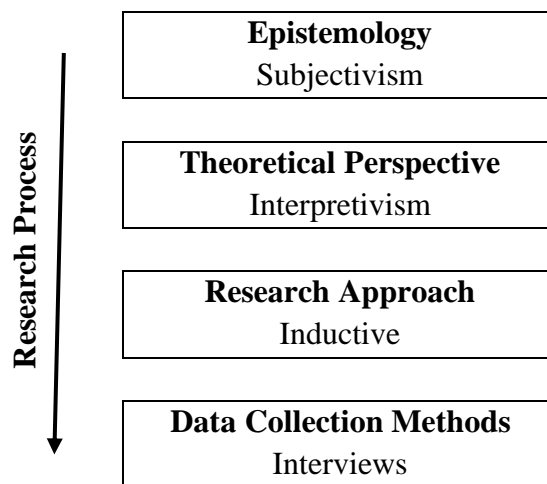
3.2.2   Sampling and Participants

Participants were selected by purposive sampling. The sample included seven secondary school teachers (6 female, 1 male) and seven EPs (7 female). Tables 2 and 3 summarise the demographics and characteristics of the teachers and EPs, respectively. Interviewees were asked what the current 'covid level alert' was during the time of the interview (Cabinet Office, 2020; Prime Minister's Office, 2020). This is because this may have had an impact on teacher and EP experiences during the pandemic at the time of interview. For example, higher frequency of school/year group closures in 'very high' alert tiers due to high numbers of covid-19 cases might mean that teachers had less experiences of supporting students directly, or that EPs were working remotely/virtually without face-to-face visits suggesting they might have had less involvement with schools. Teacher participants were selected based on having

at least three years teaching experience and taught year 10 and/or 11 students in the build up to high-stake examinations. This was because it was important for teachers to have previous experience of teaching GCSE students. EPs were selected based on the set criteria that they should be fully qualified and working in England. This was because the aim was to understand how EPs can draw on previous experiences and use these experiences to support schools with test-anxiety in the future. There was no limit for the number of years qualified for EPs. This was because any newly qualified EPs will have completed a three-year doctorate which includes a practice placement working in an LA EPS, therefore it was thought that EPs could draw on their experiences as trainees if necessary.

The sample was selected through existing working relationships with schools and EPSs through my role as a TEP with the help of colleagues who were able to share my information sheet in a bid to recruit participants. All participants (n=14) were provided with an information sheet detailing the nature of the research and gave their informed consent prior to agreeing to participate (see Appendix F and G).

Table 2

Teacher Participant Characteristics (n=7).

Teacher	Geographic location	Year groups taught	Setting	Subject taught	Number of years teaching	Covid level alert at time of interview*
1	South West England	7-9, 11	Secondary grammar school	English	5	Medium
2	Midlands	7-12	Secondary school	Science	4	Medium
3	South West England	9-13	Upper school	PE	7	Medium
4	South East England	10	Secondary school	Geography	16	Very high
5	South West England	9-13	Upper school	Science	4	Second national lockdown
6	South West England	7-13	Secondary school	Computing	13	Second national lockdown
7	Midlands	7-13	Secondary school	Science	20	Second national lockdown

* 'Medium', 'Very high' and 'Second national lockdown': at the time, these levels meant that all early years settings, schools, colleges and universities remained open (Cabinet Office, 2020; Prime Minister's Office, 2020).

Table 3

Educational Psychologist Participant Characteristics (n=7).

Educational psychologist (EP)	Geographic location	Local authority (LA)	Number of years qualified	Covid level alert at time of interview*
1	South East England	LA 1	17	Medium
2	South West England	LA 2	16	Medium
3	South West England	LA 2	15	Medium
4	South West England	LA 3	22	Medium
5	South West England	LA 2	2	Medium
6	South West England	LA 2	11	Second national lockdown
7	South West England	LA 2	15	Second national lockdown

* 'Medium' and 'Second national lockdown': at the time, these levels meant that all early years settings, schools, colleges and universities remained open (Cabinet Office, 2020; Prime Minister's Office, 2020).

3.2.3 Data Collection Methods

Interviews were deemed appropriate for the current research because they allow for an in-depth understanding of individual perspectives (Ritchie et al., 2013). To meet ethical guidelines during covid-19, interviews were completed online via Microsoft Teams (see section 3.2.5 for an explanation of the full ethical guidelines). It was essential that this was discussed and arranged with each interviewee prior to the interview to ensure the context in which the interviews took place was appropriate, as is expected for face-to-face interviews, they must be carried out somewhere quiet, private, and mutually agreed (Lichtman, 2013). It is important to consider the possible limitation of selection bias due to individuals taking part in the interviews needing access to the internet and knowledge of how to use online video conferencing platforms. Despite face-to-face interviews being referred to as the 'gold standard' in qualitative research (Krouwel et al., 2019), there is evidence to suggest that online methods provide the opportunity to reach participants across a larger geographical area

(Archibald et al., 2019) and are convenient, efficient, cost-effective, and offer flexibility for those involved (Hewson, 2008).

It was important to consider the extent to which people present their true selves online in comparison to how they may present themselves offline or in a face-to-face meeting (Angrosino & Rosenberg, 2011). Online video platforms could obscure the socio-emotional signals between interviewee and interviewer that might be more prominent in face-to-face interviews. This emphasises the need to show the interviewee that the interviewer is attentively listening by using short verbal affirmations, summarising, paraphrasing, and reflecting feelings.

Main Study. During the interviews I used a semi-structured interview schedule, also known as a topic guide (Ritchie et al., 2013) in order to ask open-ended questions to the interviewees and encourage discussion and exploration of the topic. The topic guide acted as a reminder of the aims and focus of the topic and provided structure for comparison across interviewees without restricting the limit of the interview (Thomas, 2017) whilst ensuring that the importance of issues discussed are relative to the research agenda. It was essential that I was reflexive and open for participants to be critical of the topic of discussion (Gill et al., 2008) during the interviews, and was aware of how the researcher-participant relationship may have an impact on the data gathered (see 5.1).

The interviews were carried out between October-November 2020. They took 30-45 minutes including an introduction and briefing, topic guide questions, and a debrief (see Appendix I). The interviews were recorded and used by me only. Once the audio files were anonymised and transcribed the recordings were deleted. Teachers and EPs were informed they could withdraw at any time throughout the study up until the point when data were analysed (see section 3.2.5 for an explanation of the full ethical guidelines).

Pilot Study. To ensure successful data collection during this phase of the current research, a pilot study was conducted prior to the main interviews. The pilot study involved two participants completing an online semi-structured interview: one secondary school teacher to pilot the teacher interview and one TEP to pilot the EP interview. Their data were

not included within the results of the final study. For the topic guides for teacher and EP interviews before and after the pilot study see Appendix H and I, respectively.

As a result of the pilot study, I was able to modify and improve the topic guide to ensure the questions were clear and easily understood by participants. Regarding the teacher interview, the questions were developed as a result of a discussion with the teacher following completion of the pilot interview. This also enabled clarification of what teachers might gain from taking part in the research. This was added to the information given to participants prior to giving consent, and was discussed at the beginning of the interviews. The EP pilot interview revealed that a further question should be added to get a better understanding of what the EP role was for student test-anxiety prior to the covid-19 pandemic, before discussing the current context and how the EP role may have changed.

3.2.4   *Analysis*

The interview transcripts were analysed using a six-stage reflexive thematic analysis framework based on Braun and Clarke (2006) (see Appendix J). This process allowed for the summary of the key features of data by developing, analysing and reporting patterns within the rich data set (Braun & Clarke, 2006). Reflexive thematic analysis was selected as an appropriate method because it is an organic process and provides a flexible methodology in the development of codes and themes (Braun & Clarke, 2006; Terry et al., 2017). A limitation of this method is that often the data is simply summarised and organised into themes rather than analysed (Maguire & Delahunt, 2017), sometimes using the interview questions as themes (Clarke & Braun, 2013). To overcome this I actively engaged in the analysis process, highlighted key similarities and differences across the findings and moved beyond a description of the data, allowing for the interpretation and explanation of meaning (Maguire & Delahunt, 2017).

The first stage of analysis involved transcribing the interviews and becoming familiar with the content of the data. All interviews were transcribed to reproduce all spoken words, sounds and hesitations but the data extracted and quoted in the findings were edited to remove any words and clauses that did not change the meaning of what was said. The full transcripts were used during the analysis. I transcribed the interviews myself as soon as I was able after each interview took place, although this was time consuming it enabled me to achieve the first stage of thematic analysis: familiarisation. Next, I carried out the coding stage whereby initial

codes were recorded using the software NVivo 12, this was an evolving process where initial codes were recoded and adapted throughout this stage by rereading the transcripts. I used an inductive approach to develop codes based on participant experiences, this meant that the analysis was driven by, and reflective of, the content of the data in the interview transcripts (Braun & Clarke, 2016). A semantic approach was taken, whereby words of interviewees were taken at face value and meaning taken explicitly from the data (Braun & Clarke, 2016). The third stage of the thematic analysis involved organising the codes into potential themes for the teacher interviews and EP interviews, respectively. Fourth, I reviewed the themes to check they were in line with the data set, and checked for any further themes that may have been missed before creating thematic maps of the analysis. Fifth, the overall themes were defined and named, and finally significant quotes and examples were selected to use in my findings section to report strong analysis linked to the overall research aims and objectives. See Appendix K for an example of the coding table and themes, and Appendix L for the final thematic maps of analysis.

3.2.5   Ethics

The current study was based on professional and ethical judgement. To ensure clear ethical guidelines were followed, the next section refers to legislation from the BPS (Code of Human Research Ethics, 2014; Code of Ethics and Conduct, 2018) and the British Educational Research Association (BERA) ethical guidelines (2018).

All interviewees gave fully informed consent prior to taking part in the interviews. It was ensured the interviewees were given sufficient opportunities to understand the purpose and anticipated outcomes of the research. This was ensured by giving all participating teachers and EPs an information sheet informing them of the relevant information so they could decide to agree or not agree to participate (see Appendix F and G for the information sheets and consent forms). The information sheet included details of the research aims, methods of data collection, expectations of time commitment from participants, their right to withdraw at any time, details of possible risks, contacts of research supervisors, a debrief and the potential outcomes and benefits of the research. The brief, discussion of confidentiality and anonymity, and the right to withdraw were discussed at the beginning of each individual interview. At the end of the interviews the participants were debriefed and reminded that their data will be made confidential and anonymous, and they had the right to withdraw. Interviewee

information, such as geographic location and the number of years they had been working was kept, however interviewees were assured that any information kept would be anonymised and they would not be identifiable from the data presented, their information was safely stored and protected in line with the Data Protection Act (1998). Full details of all the ethical considerations made for the current study can be found in the ethics application form (see Appendix M for the full ethics application form and Appendix N for the approval certificate). Interviewees were required to discuss student test-anxiety in the context of the covid-19 pandemic, therefore it was essential they were aware of the possible sensitive nature of discussions, such as personal experience of covid-19. The interviews did not induce psychological distress or anxiety, or cause harm or negative consequences beyond the risks encountered in normal life and all efforts were made to minimise potential negative effects.

3.3   Findings and Discussion

The interview data were analysed using reflexive thematic analysis based on Braun and Clarke's (2006) framework (see Appendix J). The primary codes for each dataset were grouped to develop subthemes (see Appendix K for an example of the coding table). The subthemes were subsequently grouped to develop main themes.

To present my data in a way that is meaningful to the reader, I have focused on the subthemes in the data analysis. This is because within the data there are many different, connected parts that should be highlighted to portray the complexity of the data. Furthermore, this enabled me to emphasise the significance of the findings from the interviews and highlight any contradictions that are present within the data.

In the following section I will explain the changing circumstances of the context in which the interviews took place. Next, I will present the analysis for the teacher interviews, followed by the analysis for the EP interviews. I will introduce each subtheme with a description of what the subtheme includes. This will be followed by an exploration and discussion of the codes within each of the subthemes in relation to the relevant literature. See Figure 5 and Figure 6 for the thematic maps of the teacher and EP analysis, respectively, and Table 4 for how the subthemes are linked to the four research questions in this phase.

Table 4

Research Questions and Subthemes.

Research Question	Subtheme
1. What are teacher experiences of supporting students with test-anxiety in the context of a pandemic?	Teacher role
	External to the teacher
2. What are teacher views of how test-anxiety support could be improved following a pandemic?	Barriers
	Improving support
3. How can EP's previous experiences of supporting schools with test-anxiety inform future support for test-anxiety following a pandemic?	Educational psychologist role
	Systemic approaches
4. What are EP's views of the barriers to supporting schools with test-anxiety following a pandemic?	Challenges
	Other priorities

3.3.1 Context of the Interviews

Due the changing circumstances and guidance during the covid-19 pandemic, it is important to note the time and context in which the interviews took place (between October-November 2020). At the time:

- Examinations in Wales, Scotland and Northern Ireland had been cancelled or reduced (Coughlan, 2020c, 2020d, 2020e; Imrie, 2020).
- There was uncertainty about if examinations were going ahead in England (Coughlan, 2020a, 2020b).
- Following the interviews, examinations in England were cancelled for 2021 and results agreed to be given by teachers rather than through an examination system (Coughlan, 2021; DfE, 2021a, 2021b; Kippin & Cairney, 2021). This raises the question of the need to support students with test-anxiety considering examinations were no longer happening. However, the findings discussed could be relevant in future years following the relaxation of restrictions following covid-19.

3.3.2 Thematic Analysis of Teacher Interviews

There were four subthemes which arose from the teacher interviews. Firstly, teacher experiences specific to their role during covid-19, and secondly experiences external to their role during covid-19. Finally, within the teacher interviews there was discussion about the barriers and future support for test-anxiety in schools. See Figure 5 for a thematic map of the teacher data.

Figure 5

Thematic Map for Teacher Interview Data.
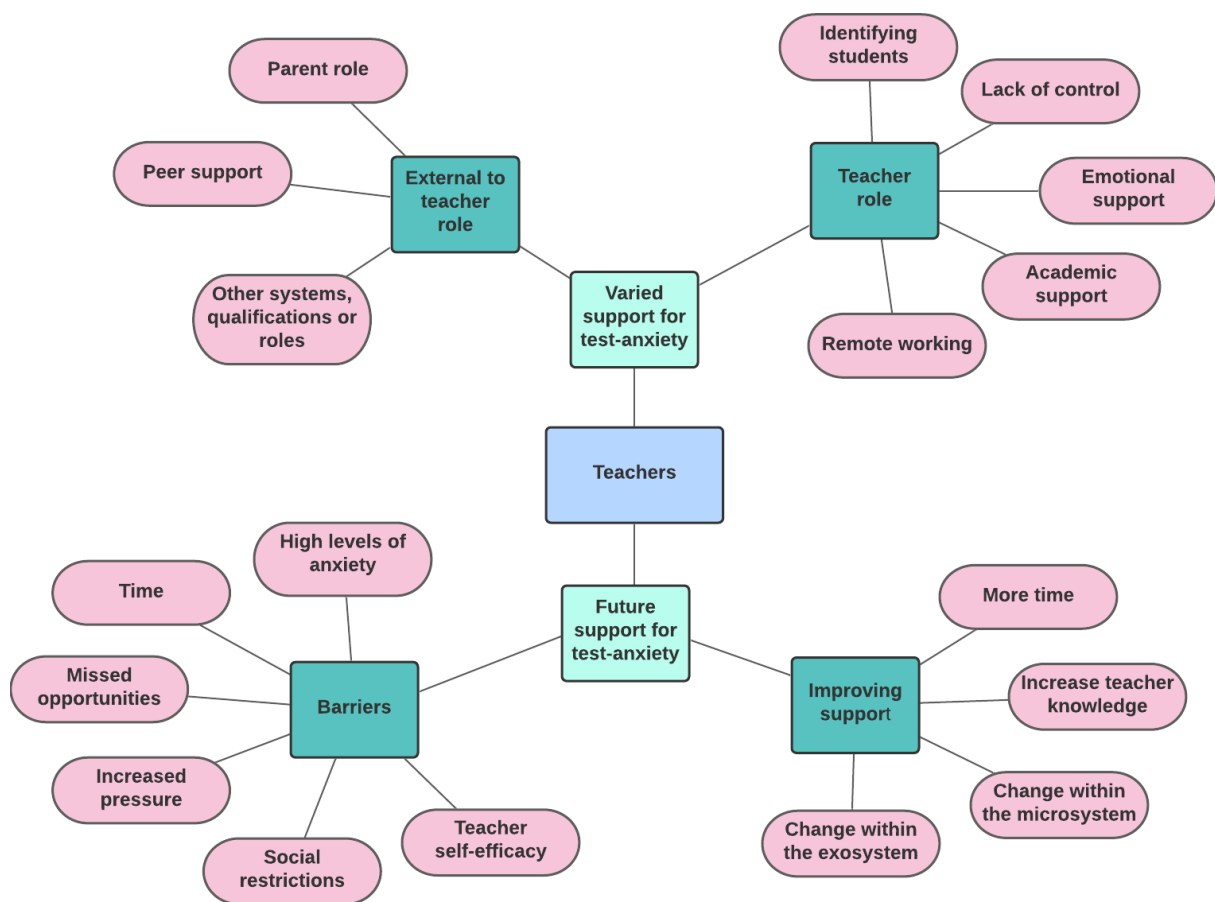
3.3.3 Teacher Role

The subtheme which will be discussed first is teacher role. This refers to academic support, emotional support, identifying student need, a lack of control due to covid-19, and remote working in the context of a pandemic (see Figure 5 for a thematic map of the teacher interview data).

Academic Support. In the teacher interviews, the academic role that teachers have in supporting students in the build up to examinations was a dominant issue discussed. This included "running extra revision sessions" (T6), "time management" (T4), and "modelling how to tackle a certain question" (T7). T2 also described a modelling technique:

> We call it a walking talking mock, so I actually show the kids the exam paper that I've got in front of me which is the same as theirs, and we read it out to them and we highlight and underline and talk through exam techniques with them.

Teacher experiences also included how they were supporting students academically by "recapping and just bringing it all back together" (T1) and "filling in gaps that they would have missed by not doing their work" (T2). There was also discussion about "giving them [students] the resources that they would have had normally in the lessons" (T5). As concluded in phase one, teachers have a role in providing CYP with study skills and practical supports ahead of their examinations (Mealey & Host, 1992; Wisdom, 2018; Yildirim et al., 2008). This seems to be a key role teachers have taken during covid-19, however previous researchers have suggested that high-pressured academic environments could increase test-anxiety (Dan et al., 2014; Ramirez & Beilock, 2011; von der Embse et al., 2013). One view in the teacher interviews recognised there was an increased academic demand: "everybody's pressurising them to do extra work, and extra sessions, extra things after school" (T6) and "it's a very difficult balance" (T6). This suggests that teachers were aware of the extra pressures presented by covid-19 and were supporting students academically to cope with this, however as cited in previous literature, increasing academic pressure may not always be helpful to students.

Interestingly, teachers saw their role as primarily academic. This could be because teachers are trained to support CYP with priority placed on their learning and education on a day-to-day basis. However, reflecting on phase one of this research, it is suggested in the literature that teachers are also recognised for their role in social and emotional support of students in the build up to examinations (Prewett et al., 2019).

Emotional Support. Teachers had experience of supporting students emotionally by providing them with reassurance. Some comments that support this include "making them feel comfortable" (T2) and having "weekly check ins" (T3) with CYP to give them

encouragement. The significance of teacher role to socially and emotionally support students was reported in previous research (Hascoët et al., 2018; Mealey & Host, 1992; Triplett & Barksdale, 2005; Wisdom, 2018; Yildirim et al., 2008) (see 2.3). This also seemed to be an important part of the teacher role during the pandemic:

> In this current climate what I've done, which I've never done with any year 11 class I've had before, they've all had an individualised postcard sent home before half term to say, it's been great to see you back in school, like really enjoying your lesson, your company in the lessons, you're doing a grand job, let's move forward. (T3)

Identifying Students. Teacher experiences included the necessity to identify those students that were struggling and help to manage student anxieties on an individual basis. One view was that "there's not one blanket way of dealing with everyone's test-anxiety" (T2) and "finding out what works for them and not bombarding them with things that are just going to make them more acutely aware of what they're not able to do" (T5) was noted as important. There was a focus on being selective about the groups they were working with and identifying the needs of CYP:

> We surveyed… and that enabled us to kind of gauge you know just how they were feeling about coming back into school, so how anxious they might be about actually physically coming to school, and how they felt about lessons and learning. (T4)

Lack of Control. A dominant view amongst the teachers was feeling as though they lacked control. T2 described this time as "chaotic" during the pandemic when there was uncertainty about the landscape of schools and examinations in 2020. This was discussed further with reference to school closures and uncertainty about the future of examinations:

> The problem with covid specifically, is that the staff and the students just have no control whatsoever. So it's a tricky balance of… we're in the English office having these conversations, what we're going to do with this, when this happens, blah, blah, and you have to be really careful with how you can support the kids because you can't tell them, you can't predict the future. (T1)

Another view was that students would normally be able to take mock examinations in preparation, however this year covid-19 "completely pull[ed] the rug from under their feet" (T4). There were also comments that CYP were looking to teachers for reassurance, but this presented challenges, such as "how do we prepare the kids for that when we don't know

what's gonna happened either" (T2). These findings suggest there was a sense of uncertainty and lack of control amongst teachers. This is consistent with recent literature based on the general UK population which suggested there are currently increased feelings of uncertainty which present risks to mental health (Rettie & Daniels, 2020).

Remote Working. Another widely discussed experience amongst teachers was remote working. This included teachers describing different programmes or apps they had used in a shift towards virtual and remote methods of teaching and supporting students. T6 described "just using email", while T5 talked about "online tutorial classes". In some ways, this acted as a barrier because the new way of working "hadn't really been finessed" (T5) and "our staff had to all learn how to use Teams while working from home" (T4). This suggests that teachers had to adapt quickly to new technology and ways of working with limited access to training to learn these new methods. This view existed despite the fact that there was guidance produced by the DfE (2021c) with the expectation that teachers will be providing education remotely. In addition to this, there were concerns for students accessing the technology and one teacher referred to an experience where "some kids didn't know how to attach an attachment in an email, but if you've never been taught that, you would never need to know that in life" (T3). Children have had to adapt to an unexpected digital transformation where the digital divide has increased due to unequal access to technologies (Iivari et al., 2020; Watts, 2020). Yet, since the move to remote working, there have been reports of positive experiences using technology, such as improved digital skills and creative ways to learn (Bubb & Jones, 2020; EEF, 2020a). Indeed, some children have benefited from being able to be independent and self-directive in their learning (Iivari et al., 2020).

3.3.4 External to Teacher Role

The subtheme of external to teacher role will now be discussed. This includes the use of other systems, qualifications or roles within school, and the role of parents and peers in the build up to examinations (see Figure 5 for a thematic map of the teacher interview data).

Other Systems, Qualifications or Roles. T1 spoke about an additional qualification they used alongside their teacher role: "I've got a degree in counselling… so that taught me a

bit about how to communicate, not talk about myself and just sort of open questions and that kind of thing". Teacher experiences also included how they supported students with test-anxiety whilst in an adjacent role, such as being a member of the senior leadership team (SLT) or a tutor:

> I, as a year 10 tutor, started doing online tutorials… rather than being on their own they were in groups which I designed with their friendship groups in mind so that they felt comfortable enough to talk about what was going on and how they were getting on with their work, and also just talking about life really, because as a tutor I don't teach them anything subject wise but we talk about how to face our fears and how to be resilient and in lockdown we spoke about how to organise our time now they're having to do it on their own. (T2)

A more dominant experience was that teachers referred to others within school, such as pastoral staff, the school counsellor or mental health and wellbeing roles: "we have a self-referral system and we have two or three counsellors on site, even their examination anxieties… you don't have to have some other issues" (T4). These findings suggest that teachers might not feel test-anxiety support is within their role, yet previous research by von der Embse et al. (2018) has stated otherwise. T3 suggested that students "go and talk to her [pastoral staff] about these things that maybe I'm not most upskilled in". As a solution, T3 later suggested that teacher knowledge could be increased to improve support for test-anxiety (see 3.3.6). The teachers did not mention the special educational needs coordinator (SENCO) as external support for test-anxiety, suggesting there is not an overlap between the pastoral and special educational needs (SEN) support systems in schools. These findings link to the discussion in 3.3.10 about role of the SENCO in schools.

Parent Role. Parent role in supporting test-anxiety has been recognised previously in the literature (Chamberlain et al., 2011; Flitcroft et al., 2017; Peleg et al., 2016; Putwain, 2009a). One view was that it was important for teachers to involve parents in the preparation for examinations, for example, encouraging them to have conversations with students to generalise their learning: "how did you approach your history last time, and try and get the children to sort of reflect on what skills they already have that they might be able to apply" (T4). Additionally, inviting parents to revision strategy groups and highlighting the importance of communicating with parents about what was happening in school was raised: "we do put things on our website, and we do try and flag that to parents as well" (T4). However, Peleg et al. (2016) suggested that if parents were overinvolved and had high

expectations of their children then test-anxiety was likely to be increased. Parents have a significant supportive rather than educational role around examinations (Bilton et al., 2018; Flitcroft et al., 2017). During the pandemic, parents have been praised for their key role in supporting children during lockdown (Murphy, 2021) which suggests that parental involvement could be even more important for examinations at this time. Yet, findings from research carried out during covid-19 suggested that enforced home-schooling had presented challenges to parent and child mental health (Joseph, 2020; Thorell et al., 2021) meaning there could have been challenges for parents in this supportive role.

Peer Support. Teacher perspective on peer support arose within the interviews. One view was that peer support could be "beneficial to their studies" (T6), with T3 commenting that students were "bouncing off each other" in groups. Indeed, Hoferichter et al. (2014) claimed that positive peer relationships are connected to a reduction in general anxiety for students at school. T6 suggested "when they're with friends, they do talk a lot. They might not admit it, but they do talk about work" and "they'll probably generally feel like they've missed out generally, and that's bound to make them think in the back of their mind, oh I'm not going to do very well in this exam". This suggests that peers could have a role in supporting test-anxiety, yet due to covid-19 social contact has been limited due to school closures and social distancing restrictions (DfE, 2021c) which suggests peer support may not have been accessible and could in fact contribute to an increase in mental health difficulties in CYP (Loades et al., 2020; Young Minds, 2021).

3.3.5 Barriers

The subtheme which will be discussed next is barriers to teachers supporting test-anxiety. This subtheme includes missed opportunities for students during the covid-19 pandemic, barriers in the classroom such as social restrictions, increased pressure on students, higher levels of anxiety, limited time available to support students, and teacher self-efficacy (see Figure 5 for a thematic map of the teacher interview data).

Missed Opportunities. A shared perspective amongst teachers was that students have had limited examination experience this year. T3 suggested CYP are on the "backfoot" and

the gap needs to be closed to "make them feel comfortable and confident sitting those examinations". In support of this, T4 felt that CYP had lost time for improving "independent learning" skills and T5 commented on a conversation they had with a student who said, "I'm going to have to do proper examinations one day, and I'm not going to know how to do them". This suggests there is a concern amongst teachers that CYP have missed opportunities to learn examination techniques: "usually you build on the GCSE stuff, but they haven't got that to build on" (T5), reflecting the importance of preparation for future examinations (Putwain, 2008b). This links to teacher experiences of academic support during covid-19 to help students fill the gaps in their learning that they may have missed (see 3.3.3). A study in Spain with university students found that students with higher test-anxiety had more negative emotions and less academic self-efficacy, and a stressful event, such as a pandemic, and a critical event, such as the death or illness of someone close, will increase levels of anxiety and perception of self-efficacy (Alemany-Arrebola et al., 2020). This suggests that missed opportunities in education could have an influence on student confidence in taking examinations and academic endeavours in the future.

Social Restrictions. An experience shared by teachers was difficulty "with the lack of contacts you can have in schools between teachers and students" (T5). This suggests that supporting CYP with examinations was limited due to the social contact restrictions in place at the time (DfE, 2021c). Teachers suggested there was "no infrastructure for them to revise in school" (T5) and this was supported by an article written by Coughlan (2020f) about concerns that CYP were isolating and not attending school due to covid-19. T5 went on to describe how:

> We can't prepare them to do their own revision because you're limited by how close you can get to them. So they're not really learning how to revise properly... you can't spend enough time with them on a personal basis, cos you can't get close enough to pick out what they are and aren't doing. I think it's more you can't prepare them like you could before.

Increased Pressure. There was a shared view amongst teachers that the grading system around examinations this year (DfE, 2020a) would increase the pressure felt by students. One teacher shared their experience of informal tests in the classroom when schools returned in the Autumn term:

> Normally they would just mess around in that you'd have to really coax them to do the work. Whereas now, every single one of them is cramming for this test, because they know that it could potentially be a very important contribution to a grade, especially this year. (T5)

Another view was the students "are anxious anyway that makes them worse because they're like, ooh god, I need to prove myself" (T2) to the teachers who are giving them their examination grades this year. T6 agreed with this, stating that "the anxiety and the pressure will be a lot more than it usually is", and this links to their missed opportunities and gaps in their learning due to school closures and social restrictions. Indeed, this links with research by Song et al. (2015) identified in phase one which states that increased pressure on academic achievement is positively related with increased levels on test-anxiety, therefore supporting teacher perspectives in the interviews about increased pressure and anxiety currently in schools.

High Levels of Anxiety. Following on from teacher concerns about "added pressure and a bit more worry" (T1), it was suggested in the interviews that CYP are experiencing higher levels of anxiety in general: "every year group are much more anxious. I feel like that will just continue... I think it could possibly get worse towards the end of the year" (T6). These findings are consistent with research carried out during covid-19 which acknowledged the psychological impact of the pandemic and suggested there was an increase in stress levels for CYP (Joseph, 2020; Loades et al., 2020; Orgilés et al., 2020; Rettie & Daniels, 2020; Sakka et al., 2020; Young Minds, 2021). If there are higher levels of stress and anxiety in CYP then this could act as a barrier to support in the future.

Time. A dominant perspective from the teacher interviews was that teachers had limited time and capacity within their role. One view was that "it's really difficult because we're governed by time, it's the very nature of schools" (T7) and a second view was that "covid has stolen some time that you did have" (T5). Pressure on teacher time has been frequently discussed in the literature prior to the covid-19 pandemic (Collinson & Fedoruk Cook, 2001; Round et al., 2016; Sellen, 2016). Therefore, it is likely that despite the pandemic, time and capacity was previously, and will continue to be, a barrier to the individual support teachers can offer CYP with test-anxiety which may have been exacerbated by covid-19.

Teacher Self-Efficacy. Another view was that no change to teacher practice was needed to support test-anxiety in the classroom, or that teachers did not believe they were able to support students due to the pandemic. One perspective was that "I don't know if I will have to change much" (T1) about what they do because they felt they already made themselves available and supportive to students suggesting they had a higher perceived self-efficacy when supporting students with test-anxiety. Yet, another perspective was that "it's not necessarily that easy for me to do anything" (T6). This perhaps reflects a lack of self-efficacy in teachers due to the pandemic and a shift to online working. A study conducted during covid-19 with teachers in China supports this claim, finding that teacher's online teaching self-efficacy was low when online teaching began (Ma et al., 2021). Ehren et al. (2021) suggested teacher self-efficacy is important in teacher response to a pandemic because those with higher perceived self-efficacy are more likely to believe they can support students while working remotely. In their discussion, Ehren et al. (2021) highlighted that due to the confusion and anxiety about when staff and students would return to schools after school closures, there was a sense of teachers feeling undervalued which lead to negative effects on their levels of stress and self-efficacy.

3.3.6   *Improving Support*

The subtheme of improving teacher support for test-anxiety will be discussed next. This refers to changes within the microsystem and exosystem to support test-anxiety, increasing teacher knowledge, and more time needed to support students (see Figure 5 for a thematic map of the teacher interview data).

Change within the Microsystem. A perspective about school support was that smaller groups could stop "comparative competitiveness" (T5). 20 years ago, social comparison was found to increase test-anxiety, particularly for students in higher achieving groups (Zeidner & Schleyer, 1999), yet Sung et al. (2016) found that higher achieving students were less likely to experience stress from social comparison because they already knew they were high achievers. This highlights some controversy in the literature about the relationship between test-anxiety and social comparison. This also considers the influence

that peers may have on student test-anxiety in the classroom, as identified as important in Bronfenbrenner's (1979) microsystem.

A dominant view amongst teachers about what they would like to change within school included smaller groups and changing the examination environment to improve support. It was suggested that the examination set up could be "similar to what we have in lessons" (T2), could involve "walking them through the set up" (T7) and helping students prepare for "the seriousness of it" (T7). For example:

> We did last year, we put them into other exams that were happening to show them the setup, so they weren't sitting that paper, but they could see the students lining up, how the teachers behaved, how the invigilator behaved, they would talk to the invigilators as well. (T5)

On the day, environmental factors have previously been recognised by students as potential triggers to test-anxiety, including school policy arrival to examinations and examination hall layout (Chamberlain et al., 2011; Putwain, 2009b), therefore it is important that teachers have identified strategies to manage the environment. Despite examinations being cancelled in 2021, recently it was confirmed that there will be "mini-examinations" which "will be taken in class rather than examination halls, there is no fixed time limit for their duration and they will be marked by teachers" (Coughlan, 2021). This fits well with teacher views that consideration of the environment should be given. Additionally, it links to Bronfenbrenner's (1979) microsystem and the impact that teachers and the school environment could have on examination experiences.

Change within the Exosystem. Reference was also made to changing wider systems to improve support for test-anxiety, moving away from the "emphasis on grades" (T1) and suggesting that "it's a one size fits all system for so many different types, styles and individuals" (T7). This links to Bronfenbrenner's (1979) bioecological systems theory with reference to the exosystem and the impact that the government and political systems may have on examination experiences. During the pandemic there has been a recognition that there is a need to move away from focusing on grades and move towards more socio-emotional learning opportunities when schools return (Carvalho et al., 2020; Iyengar, 2020) which could be achieved through a relationship-based curriculum, as identified by Carpenter (2020) as a 'recovery' curriculum.

Increase Teacher Knowledge. There was a perspective in the teacher interviews that teachers did not have much knowledge of test-anxiety. One view was that "I think I'm much more aware of it now, so I make more allowances for it. Sounds really bad but pre-covid, if someone told me a student had test-anxiety, oh, I was a bit like, so does everybody" (T5). Another experience was a reflection on the seriousness of mental health difficulties and a change in teacher thinking which had been prompted due to examination cancellations following covid-19:

> … it's made me realise that people do massively struggle, and you can't just brush them aside and say, oh, they're having a bad day. I think actually, you've got to be a bit more personable take that time. And I think that's my approach I'll go to, I will make sure that individual that is struggling or can't get in will actually have that personal time from me, to make them feel a bit more competent and confident. And I actually think, I hope when I say this, I think other teachers will realise that too, because having that time has taught us that actually, people do massively struggle with their mental health. (T3)

This reflection suggests a potential shift in thinking about the importance of supporting CYP with test-anxiety. Indeed, the importance of reflection on improving teacher practice was highlighted by Forrest et al. (2019), yet it was suggested that knowledge should also be increased in order to facilitate a change in practice. The need to improve teacher knowledge was described as an important step in improving support for test-anxiety in the interviews:

> … teachers need to be a little bit more upskilled in it, and know a little bit more about the theory behind it in terms of actually being able to identify it early enough to put some form of intervention in… that's where the first step has got to be, do teachers need to be a bit more informed in this area… that would be my kind of way of thinking of how we could improve it is actually, do we need know more about it? (T3)

This suggestion to increase knowledge is supported by previous findings in the literature whereby it was claimed that teachers lack knowledge of test-anxiety and are unable to recognise when students need support (Urhahne et al., 2011), thus focusing on increasing teacher knowledge could be beneficial to improving support. This links directly with views in the EP interviews where it was suggested that training in schools could help to increase teacher knowledge of this topic and that EPs have a role to facilitate this (see 3.3.9).

More Time. The perspective of wanting more time to be able to support students with test-anxiety arose from the teacher interviews. For example, "being given time to have 1:1 sessions and chats with particular students" (T2), and "in an ideal world you would have

more time" (T6). This was supported by previous research by Collinson and Fedoruk-Cook (2001) who suggested teachers need more time to learn and share knowledge with colleagues which in turn will influence organisational change. Despite Collinson and Fedoruk-Cook's (2001) research being two decades old, this claim was supported more recently by Forrest et al. (2019). Forrest et al. (2019) discussed the critical element of giving more time to teachers for training, as well as collaboration and reflection on change and outcomes for CYP.

3.3.7   Thematic Analysis of Educational Psychologist Interviews

There were four subthemes from the EP interviews. Firstly, approaches EPs have used previously to support schools with test-anxiety prior to the covid-19 pandemic, including systemic approaches, and approaches specific to the EP role. Next, the barriers that EPs have experienced when supporting schools with test-anxiety are discussed under the headings of challenges experienced by EPs within their role, and other priorities that are present in schools which may act as a barrier to EP support for test-anxiety. See Figure 6 for a thematic map of the EP interview data.

Figure 6

Thematic Map for Educational Psychologist Interview Data.
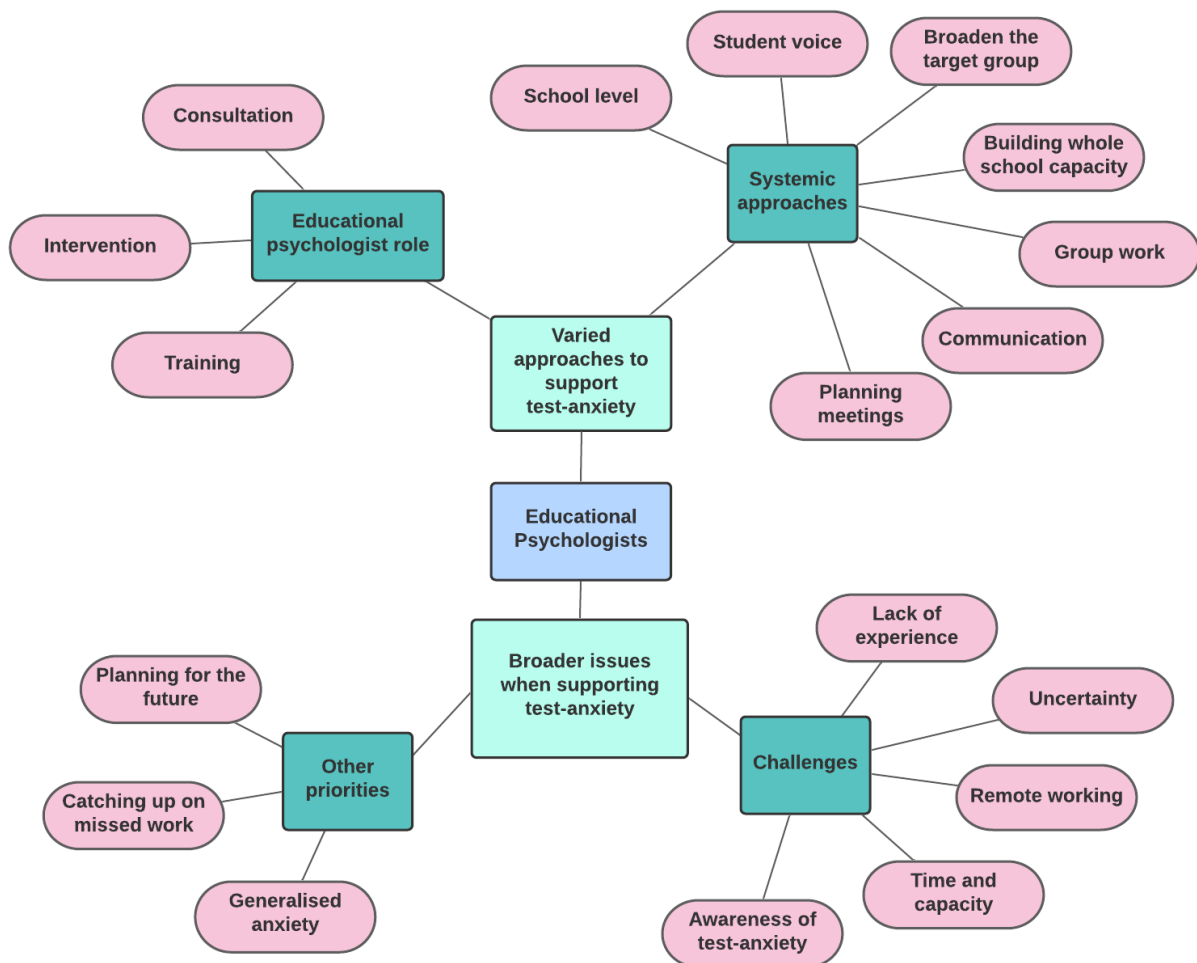
3.3.8 Systemic Approaches

The subtheme of systemic approaches used by EPs will now be discussed. Systemic approaches refer to whole school approaches including the role EPs have in working individually with schools, recognising student voice, starting conversations with schools, planning meeting discussions, building whole school capacity, working with young people in groups, and broadening the target group being offered support (see Figure 6 for a thematic map of the EP interview data).

Student Voice. A dominant view in the EP interviews was that actively engaging students in test-anxiety support and intervention was "really powerful" (EP1). EP3 commented "if they're not contemplating and happy to work on it knowing it's an issue and

it's something they want to change, then there's no point really doing it". This was also reflected by another EP who described how students were asked to be involved which "really helped because the students that we had definitely bought into and were committed and did have a go at the exercises. I think otherwise it wouldn't have worked" (EP7). This suggests that the support needs to be meaningful to students so that they can benefit from it. EP3 suggested that if the support is given to students at a more meaningful time, then they are more likely to engage. This suggests that active sign up and engagement of CYP is essential to supporting them with test-anxiety. If support is offered at a meaningful time, then this could improve engagement. More than two decades ago in the UK, Denscombe (2000) highlighted that GCSEs reflect a significant time in CYP's lives which can lead to the achievement of future goals and aspirations. Research based in the USA highlights examinations are a "powerful source of stress" (Sakka et al., 2020, p.173) that are needed to move onto the next stage of education (Raymo et al., 2019). Yet, more recent research in the UK exploring the significance of GCSEs is limited. In 2019, Atkinson et al. suggested that adults did not understand the pressures experienced by CYP today. Student experiences of the cancellation of examinations in 2020 (Bhopal & Myers, 2020; DfE, 2020a) are different still when compared to previous years, and are unique to the current study.

School Level. It was emphasised in the EP interviews that interventions should be specific and "bespoke for the school in question" (EP5). EP6 described how personalised webinars could be used so that EP support was tailored to the needs of the school:

> It just has that personal element. And I feel like it supports the schools, because they feel they're building their own capacity, and they feel like their local person. And it's not necessarily being expert-y, it's just their local person who knows about this, and is supporting the school with it.

These findings suggest there is a requirement to work with schools to identify their training needs to provide relevant and useful support packages. Additionally, listening to student voice to inform this support and what works best was commonly discussed. EP2 described how they presented multiple strategies and "it was more about what they would find helpful and how they could adjust that themselves". This view was supported by other EPs with suggestions to draw on CYP's experiences, ask questions, and help them develop individual strategies in the build up to examinations. EP6 explained this approach in more detail:

> … the idea about making it relevant and realistic for you and knowing yourself a bit. And I suppose the first part would be about knowing yourself and your strengths and weaknesses. And that there is no right and wrong and just trying to ease them into it, and not feel like they have to be like the model that's been presented.

These findings suggest that student voice could be used to inform test-anxiety support within schools. EPs have a role in advocating for CYP (Buck, 2015) which can be facilitated through the use of person-centred approaches (White & Rae, 2016). Using students as informants may increase the validity of the content of the information delivered, and there is a need to acknowledge student voice in the development of interventions in order to increase effectiveness of delivering support for mental health in schools (Atkinson et al., 2019; Platell et al., 2017; von der Embse et al., 2013). Despite this, a common concern expressed was limited capacity and time available to offer individual support in schools. The external demands placed on EPs have previously been discussed as a limitation to their role in reporting student voice (Buck, 2015). These concerns are discussed in more detail in 3.3.9.

EP4 reflected the importance of identifying the students who need support, and the difficulties that staff could have when trying to understand student need due to covid-19 and distanced learning. Currently, it may be challenging for schools to identify and meet the needs of students who are in need of support, thus preparation is needed to manage these challenges (Daniel, 2020). EP1 suggested they needed to have a "really quite candid conversation about the types of CYP that it was very suitable for, and to try and really specifically target those with the test-anxiety". In addition to this, EP7 expressed concerns about schools' ability to identify students:

> I think also schools might not know always which students are experiencing test or exam anxiety because they might not verbalise it. And then they may be your very able CYP who always seem to achieve well, and actually teachers aren't worried about those, but actually are there signs that they're overly worrying?

The findings suggest EPs have a role in identifying students who are experiencing test-anxiety and ensuring they are working with school staff to target the most appropriate groups. Furthermore, Woods et al. (2019) suggested that students are key stakeholders and their voices should be promoted in order to open a dialogue between staff and students about examination experiences to inform support.

Communication. By enabling conversations, EPs open a dialogue about test-anxiety so that they can support schools and understand how they are supporting students. This was a dominant perspective from the EP interviews. EP5 gave an example of what a conversation might look like:

> I think it's really a good idea if EPs can start asking those searching questions about the students that they've got in schools, the type of students they've got in the school, and asking school, which particular group of students that they feel will struggle.

Planning Meetings. EPs perspectives on scheduled planning meetings with schools were raised. Planning meetings enable EPs to discuss whole school systems and raise SENCO awareness of what support they can offer (Ashton & Roberts, 2006; Baxter & Frederickson, 2005). EP7 described how they had used a planning meeting to discuss concerns around test-anxiety:

> I guess we would always talk about vulnerable youngsters in planning meetings and try and raise specifically those who are coming up in year 11 and talk about preparation for tests and exams. And then I would always be asking a school what their plans are to support those and other students who might be showing signs of anxiety. (EP7)

The contrasting view was a reflection that test-anxiety was not something EPs had raised but "it probably is something we may need to put forward to our SENCOs" (EP5) and something to "put on the planning meeting agenda" (EP3). EP2 thought it would be "proactive" to use planning meetings but admitted: "I'm not sure I've been party to that, but it'd be interesting to see if some people had raised it". A main view from the EPs was that they are more likely to raise test-anxiety as an issue in secondary schools in the future: "I guess, in talking to you, I realise that I should, in planning meetings and in dealings with my secondary schools, I should be asking them more about anxiety around exams and how they prepare and what they do" (EP6).

These findings suggest that EPs recognise that supporting schools with test-anxiety is within their role but had not necessarily had experience of raising test-anxiety in planning meetings. Indeed, it was something the EPs planned to proactively engage in following the interviews. EPs have a role to work preventatively with schools to reduce test-anxiety and ensure that CYP's performance is reflective of their true ability (Flitcroft et al., 2017; Putwain, 2008c;

von der Embse et al., 2013). EPs have expert knowledge in education, testing and mental health, thus they must act as leaders in support of test-anxiety (Putwain, 2008c).

Building Whole School Capacity. EP4 described the possibility of using "whole school approaches to wellbeing and resilience". Another explained how they might increase capacity at a systemic level: "you could leave that capacity with school, so thinking about working with pastoral staff, to hand some of the exam anxiety strategies to them" (EP1).

These findings suggest EPs could build whole school capacity by empowering staff. This is supported by previous findings by Fallon et al. (2010) who highlighted that EPs empower staff rather than taking an expert role. Increasing teacher knowledge through training will contribute towards systemic change within schools (Flitcroft et al., 2017; Sundhu & Kittles, 2016). This overlaps with the previous discussion about training staff with the aim of increasing their knowledge of test-anxiety (see 3.3.9). However, a systematic literature review by Soares and Woods (2020) suggested there was a lack of collaboration between schools and EPs to allow for follow-up work, therefore this needs to be a priority at whole school level in order to see the benefit of test-anxiety support and intervention in schools.

Broaden the Target Group. As well as increasing staff capacity, there was a reflection from the EPs about the need to broaden the target group of students being offered support for test-anxiety to a wider group. EP7 commented that: "I'm really aware that the things that would help these students would be things that help other students as well, with other anxieties or mental health generally". This finding links directly with the discussion of broader issues within schools and priority being placed on addressing anxiety and mental health needs in general rather than focusing on specific anxieties, such as test-anxiety (see 3.3.11). Recently, Putwain et al. (2021) suggested there was an overlap between support for test-anxiety and general school wellbeing.

Group Work. Views on group work were divided. One view reflected an experience where the group dynamics with some year 11 students in an intervention for test-anxiety had not worked: "we had a lot of drop out" (EP1). The contrasting view was that working with

students in groups worked well and EP2 commented that students were "very supportive and helpful to each other". These findings suggest that EPs have experienced some success when working with students in groups. This highlights the value of students learning from each other, and recognises the value of peer support at a systemic level in Bronfenbrenner's (1979) microsystem. Yet, it will be important to be aware of group dynamics and how this might influence student engagement in the support offered in the future.

3.3.9   Educational Psychologist Role

The subtheme of EP role will be discussed next. The EPs described varied psychological techniques that could be used to support schools with test-anxiety. The approaches discussed were specific to the EP role: training, consultation and intervention (Fallon et al., 2010) (see Figure 6 for a thematic map of the EP interview data).

Training. Using training to empower school staff and increase knowledge within a setting was acknowledged by EPs as a useful way of supporting schools. In the interviews, signposting to resources and "getting some key messages out there to all the relevant teachers" (EP7) was a dominant discussion. It was also described how EPs could help staff develop scripts so that they have "some questions and modelling" (EP5) to use when talking to students about how to manage their anxieties.

The role different staff members have when taking part in training and putting their learning into practice in schools was reported by EPs. It was suggested by EP6 that "the EP comes in and models it and then the school take it on". EP3 suggested "we train up emotional literacy support assistants (ELSAs)", whilst EP7 suggested "co-facilitating" alongside teaching assistants (TAs). The benefits of training SLTs were also described "so that they were aware of some of the kind of signs and some of the strategies that might be helpful" (EP7). In support of this, EP4 described a time when involvement of staff made a difference to the outcomes for CYP:

> It was supposed to be delivered… with a member of staff, not so much co-facilitating necessarily but enabling the link into school so that the students have a member of staff who knows what's going on… one of the things that the analysis has found has suggested that key member of staff is key, is critical, to the likely success of the intervention.

These findings suggest that EPs aim to move away from the 'expert' model with a focus on disseminating knowledge amongst school staff (Flitcroft et al., 2017). This links to the discussion about systemic approaches whereby EPs aim to work with the whole school to build capacity and knowledge within a staff team (see 3.3.8).

Consultation. Consultation techniques are common skills used by EPs (Wagner, 2000). This was described by EPs indirectly where reference was made to acknowledging and validating, reframing, and "trying to normalise their [student] experience" (EP7). EP5 suggested there is a need to explore students' thinking in more depth:

> I think it's really important to do a lot of reassurance and the fact that it's normal... but also thinking about ways of them exploring, thinking about where the triggers might be coming from these anxieties, what they feel about it before they even get into that situation.

EP views about the significance of people feeling listened to, helping consultees to feel emotionally safe and reassured (Nolan & Moreland, 2014) were discussed. EP1 explained an example of this with a student:

> … just be contained in someone listening to him and really understanding that and doing all that sort of feedback about how difficult that must be and how frightening it must have been. And again, you can see the relief of just having the experience of being able to share that with somebody.

Perspectives on reframing test-anxiety to "how athletes train" (EP6) or "sports performance" (EP3) was suggested by EPs with further suggestions of a shift towards managing anxiety in general. One view suggested reframing test-anxiety in consideration of the pandemic, using covid-19 as "an opportunity to reassess values and to illustrate that the grades and examinations are not the be all and end all" (EP4).

EP5 said "because of the covid situation I'm finding more and more that I'm actually becoming more of a consultant to support members of staff", empowering staff to work with their students. Reference to explicit consultation was also mentioned as a way of supporting schools with test-anxiety in the future. EP1 gave an example of how challenging CYP's thoughts enabled a change in thinking, and EP5 described using a solution focused approach "to look at their strengths".

EPs use consultation skills within consultation models in their practice (Murray & Leadbetter, 2018; Wagner, 2000). These findings suggest that consultation is used frequently,

whether this be implicit or explicit in delivery. Consultation enables EPs to work with school staff and students to jointly problem solve and find solutions that work for them (Kennedy et al., 2009; Wagner, 2000), thus supporting schools to manage problems independently in the future.

Intervention. There was some experience amongst EPs of delivering named interventions prior to covid-19. Most commonly, the intervention discussed was adapted from beating examination anxiety together (BEAT), developed in south east England, for year 10 and 11 students. The intervention is evidence based (Cassady & Johnson, 2002; Chapell et al., 2005; Gregor, 2005; Hembree, 1988; Putwain et al., 2014) and has been evaluated and indicated a "positive impact" (EP4).

EP1 commented that recently they had "been asked to just generally offer the BEAT training as a sort of almost like a personal, social, health and education curriculum (PSHE) session for a whole number of year 11 students". This suggests schools who have already engaged in the intervention recognise the value of engaging with it. If schools are already requesting support for CYP who have been affected by covid-19, it could be that test-anxiety interventions have a place in school support in the future. However, there is limited evidence for the effectiveness of test-anxiety interventions (Putwain & Pescod, 2018; von der Embse et al., 2013), in fact the evidence also appears to be limited for general anxiety and depression interventions in schools (Caldwell et al., 2019). It was rare for EPs to have experience of delivering test-anxiety interventions, suggesting that perhaps they are using other approaches more commonly to support schools with this issue.

Mindfulness and relaxation, cognitive behavioural approaches (CBT) and study skills were approaches commonly described by the EPs. EP7 emphasised the use of multiple approaches within an intervention, giving students multiple strategies and techniques:

> We looked at a CBT type approach. And talking about the work, of common worries that were coming up, and getting students to share their views on those, and they were always really interested to see the similarities between all their worries. We also explored the physiological experiences of those emotions and how they're affecting them. And we talked about strategies to deal with relaxation, making sure they had revision techniques and how you might plan your timetable, making sure there were breaks, physical activity. Things that keep you mentally healthy. (EP7)

These findings suggest multiple approaches within an intervention provide students with a variety of techniques "so CYP can choose" (EP1). Despite a previous focus on CBT techniques in the literature, the most effective interventions tend to use multiple techniques to support students (Carsley & Heath, 2018; Flitcroft et al., 2017; Putwain & Pescod, 2018; von der Embse et al., 2013). This emphasises the importance of identifying what works for individuals rather than taking a generalised approach (see 3.3.8).

3.3.10 Challenges

The subtheme which will be discussed next is challenges. This subtheme consists of EP perspectives of the challenges to EPs supporting test-anxiety including a lack of time and capacity, a lack of awareness of test-anxiety within schools, EP lack of experience of supporting schools with test-anxiety, uncertainty brought about by the covid-19 pandemic, and a shift towards remote working (see Figure 6 for a thematic map of the EP interview data).

Limited Time and Capacity. A challenge that was reported by EPs was limited time and capacity. They hinted at a desire to be creative in supporting schools with test-anxiety issues, however statutory assessment work appeared to reduce EP capacity to take this on: "I'm thinking it sounds great. Let's do it, you know. But then you know, you get to February and you have a million statutory assessments and you think, well, that was a nice idea" (EP6). Another EP reflected that, following a recent structure change in the LA, there might be an opportunity to offer schools more support with test-anxiety that they could not do before. The statutory role of an EP is referenced several times in the literature (Ashton & Roberts, 2006; Boyle & Lauchlan, 2009; Fallon et al., 2010; Gibbs & Papps, 2017; Marsh & Higgins, 2018), however these findings suggest EPs feel there is an opportunity to support schools with test-anxiety should time allow it. Interestingly, the EPs did not link their concerns to the pandemic, in fact guidance that was produced by the DfE during covid-19 advised that statutory work should continue to take priority (DfE, 2020b). Therefore, it is likely that this will continue to be a challenge for EP work in the future.

Awareness of Test-Anxiety in Schools. A common view in the EP interviews was that the SENCO was the main point of EP contact within schools. However, they questioned "whether SENCOs would necessarily know about it [test-anxiety]" (EP3), and that year heads may be better able to identify test-anxious students. MacKay (2002) previously suggested that EPs work across many groups, including CYP, schools and the LA and there may be conflicting demands. There are a lack of SENCOs on SLTs and there is sometimes a lack of authority in their role (House of Commons Education and Skills Select Committee, 2006; Lin et al., 2021; Tissot, 2013) meaning that in order to reach test-anxious students, EPs need to take a joined-up approach by ensuring members of SLT and SENCOs are involved in their work.

Lack of Experience. A view from the EP interviews was that EPs lacked experience of supporting students with test-anxiety prior to covid-19. EP5 expressed concern that "no one's ever really talked about exams. And I wonder if that probably shows or flags up some things that people are not, they're just slipping it under the carpet". All EPs commented that they had no experience during Autumn 2020. One view was that this was because they had not raised it with schools while others commented "it's probably not immediately on their minds at the moment" (EP4). Despite a lack of experience, all EPs reflected that there was a role for them in supporting schools with test-anxiety, as is reflected in the literature (Flitcroft et al., 2017; Putwain, 2008c; von der Embse et al., 2013).

Uncertainty. Uncertainty next year due to covid-19 was described by all EPs, with EP1 suggesting that we are in "unprecedented and unchartered territory". There is "less predictability" (EP4) around examinations and to support schools they need to think about "how much schools will be able to ground those CYP and stabilise them and address those fears and concerns they might have" (EP2). There were also reflections in the EP interviews about looking out for students in schools in these difficult times, with EP5 suggesting planning ahead: "I think we've got to be thinking much more proactively about, as I mentioned earlier, about the uncertainty of when? Where? And I think we've got to prepare our students that there is going to be uncertainty, uncertain times."

The pandemic presents multiple challenges and potential negative effects for those experiencing it (Brooks et al., 2020; Loades et al., 2020; Rettie & Daniels, 2020). These

uncertainties and challenges lie with school staff and educational professionals too (Kim & Asbury, 2020). A recent article published by the BPS suggested that psychologists are not exempt from the effects of a pandemic, such as personal anxiety and uncertainty, and lack of preparedness for a response to the pandemic (2020a). Therefore, these uncertainties should perhaps be addressed first before being able to support others. Since GCSE and A level examinations in England were cancelled this year (DfE, 2021a), the immediate pressure and uncertainty around examinations was reduced. However, it will be interesting to see how the cancellation of examinations may affect future years as students may have not had the opportunities to learn and practice the key skills needed to prepare. This links to section 3.3.5 where teachers discussed the missed opportunities for CYP due to covid-19.

Remote Working. Views on working remotely or virtually in the current context were reported by EPs. Service delivery amongst EPSs was different which presented challenges with assessment methods and appropriate home working tasks (Association of Educational Psychologists (AEP), 2020a, 2020b; BPS, 2020a, 2020b; Health Care and Professions Council (HCPC), 2020). One view about how support could be offered to schools was via "virtual platforms… rather than face-to-face within school". Others commented that schools were not accepting visitors and the bubbles in schools add to the complexity of offering support in the current context. There appeared to be difficulties for EPs planning the training, interventions and support that can be offered to schools because "it depends on guidelines and covid incidence" (EP2). These findings suggest that different ways of working could have an influence on how EPs are practically able to support schools, in the current context but also in the future. Yet, it could be that remote working is beneficial through the use of video, interactive content and support from leadership teams (EEF, 2020b).

3.3.11 Other Priorities

The subtheme of other priorities will now be discussed. In this section EPs refer to schools' priorities in the current covid-19 context, such as generalised anxiety and mental health, catching up on missed work due to school closures, and looking towards the future (see Figure 6 for a thematic map from the EP interview data).

Generalised Anxiety. A common topic of discussion was generalised anxiety, particularly in the context of the pandemic, as well as reflection on CYP's mental health in general. There is varied criterion for EP involvement with test-anxiety. In the EP interviews there was a view that there could be a shift in focus of support from test-anxiety to general anxiety during covid-19, suggesting it was a wider issue that needed to be addressed. Changing the language around test-anxiety interventions was also mentioned, moving towards more general "managing your anxieties, feelings or worries" (EP3). EP3 also suggested test-anxiety was not their primary concern:

> I think it would be difficult to make the difference between generalised anxiety and an anxiety related to covid, as opposed to test-anxiety. I just wonder whether the thought of having tests is going to be a secondary concern to them... So there's the uncertainty attached to the situation of, are we gonna do exams? We're not going to do exams? Are we going to school? Is it going to be closed down? Is it not going to be closed down? You know, is it the anxiety around rather than the test-anxiety? And I wonder if that test-anxiety will be overlooked? Because it's not the primary area of uncertainty for schools, or for the people involved.

Overall, a dominant perspective from the EP interviews was that there was an overlap between test-anxiety and generalised anxiety. This was reported by Beidel and Turner in 1988, and more recently by Putwain et al. (2021). EP6 suggested overcoming this by "talking about general health and wellbeing within that weaving that whole thing about eating and sleeping and looking after yourself". Furthermore, EP7 reflected that test-anxiety specific strategies should be "stored" for other groups of students: "things that would help these students would be things that would help other students as well with other anxieties or mental health generally". These findings suggest during covid-19 there could be a shift in focus to support students with more general anxieties. Presently, there are increased concerns about mental health and wellbeing (Kwong et al., 2020; Loades et al., 2020, 2020; Pierce et al., 2020; Rettie & Daniels, 2020; Young Minds, 2021), therefore, supporting schools to address these issues could be the first step to take following covid-19 before refocusing on test-anxiety.

During a specific test-anxiety intervention prior to covid-19, EP1 suggested it was "quite a sticky mess" because they were working with students with "quite clinically significant… general anxieties and social anxieties". Additionally, EP6 raised the need to "identify whether the anxiety was more than exam anxiety, or whether it was going into the realms of mental health problems that needed more support". Yet, they related this to a student with ASC suggesting a comorbidity with anxiety (White et al., 2009). This suggests that appropriate

criteria should be set so that EPs are aware of the needs of CYP they are supporting and can target those with test-anxiety.

Catching Up on Missed Work. A shared perspective in the EP interviews was that schools were prioritising catching up on missed schoolwork. EP7 expressed concern that "schools are being more pressured to still get the results", and that the pressure may be even higher in secondary schools due to expectations being the same despite "missed opportunities in year 10". Another view in agreement with this was that schools were "doing a lot of catch-up work and work that they haven't done in year 10" (EP5) with students in order to make up for lost time and prepare for future examinations.

Planning for the Future. A view amongst the EPs was that there was a focus on the future and what would happen if examinations or grades were missed. One view was that students may be questioning what their future looks like and how they will achieve their goals in the current context:

> I imagine that there will be all sorts of further anxieties, which go beyond the actual GCSE exams themselves about, then what? And what are my future aspirations? What about the future generally? … if I don't get an eight in maths then I won't get to the university, I won't get through and then get to the Russell Group university I want to go to and then I won't get the job I want to get. (EP4)

Another EP compared the experiences of students in Wales and Scotland to those in England who were still expected to take examinations (Coughlan, 2020d, 2020e) as an additional worry "about whether that will mean they haven't got the qualifications to show college institutions or universities that they've got the same level of achievement" (EP7). Reflecting on delivering a test-anxiety intervention in a school prior to covid-19, EP3 expressed concerns that schools did not see test-anxiety as a priority: "are they trying to reduce test anxiety to improve their results, rather than to actually address a need for those CYP. There are different agendas aren't there?". This suggests that prior to covid-19 there was an academic focus in schools, and this could continue to be a concern in the future. However, recently there has been a recognition of needing to focus on social, emotional and mental health needs alongside learning following covid-19 via a 'recovery' curriculum (Carpenter, 2020; Carvalho et al., 2020; Iyengar, 2020).

Despite examinations always being a constant in CYP's lives, the pandemic may have increased student worries about the future and expectations of what this may look like (Rettie & Daniels, 2020; Young Minds, 2021). However, these worries are not specific to test-anxiety but are broader issues in the current context, such as missed opportunities and uncertainty about the future. Nevertheless, a reflection from EP3 suggests schools have found it difficult to prioritise test-anxiety in the past, and this issue existed prior to the current challenges in schools.

In this chapter I presented phase two of the research, including the methodology, findings and a discussion of the relevant literature. In Chapter 4 I will bridge the two phases of research and discuss the overall findings of this thesis.

Chapter 4: Overall Discussion

The aim of this research was to understand what was already known about teacher support for test-anxiety, and explore teacher and EP support for students with test-anxiety in the context of a global pandemic. This chapter will bridge the two phases of research with recognition of the gaps in the literature and an explanation of how the current research addressed these gaps. This will be followed by a discussion of the key findings in relation to the wider literature.

4.1   Bridging the Two Phases of Research

Prior to carrying out this research, I identified the following gaps in the literature:

- Little is known about how teachers support students with test-anxiety in the classroom.
- Given the unique time and context the research was carried out, there has been no previous research about educational professionals' experiences of supporting students with test-anxiety in the context of a global pandemic.

To address these gaps, firstly, carrying out a systemic literature review in phase one enabled me to understand what was already known about teacher support for test-anxiety. This was achieved by following a strict protocol to systematically search the literature and synthesise the evidence available. Although this led to a generally descriptive account of the included studies, it was the first systematic literature review known to have collated evidence specifically about support for test-anxiety at teacher level, rather than looking at larger interventions. Yet, because there is very little research in this area it would be useful to expand the inclusion criteria for future reviews to include not only teacher support, but that of other staff members in schools including tutors, school counsellors and pastoral teams.

Secondly, interviewing teachers and EPs at an exceptional time during a global pandemic when there was uncertainty about the future of examinations in England has meant I have been able to contribute to the understanding of unique circumstances during the covid-19 pandemic. It is a new and exciting time to be carrying out research, in fact, it would have been challenging to engage with schools without reference to the current context and how this had influenced their experiences.

Overall, the combination of both phases contributes to the test-anxiety literature. In the first instance, adding knowledge to our understanding of teacher support will help to identify the gaps of what is known about test-anxiety, thus improving planning of future research to understand how to address the gaps identified. Secondly, gaining an understanding of teacher and EP experiences unique to the covid-19 pandemic will help plan future support for test-anxiety from educational professionals. And, if necessary, how to manage this in future pandemics.

4.2 Summary of Findings

The key findings of this research are presented in Table 5 in relation to the research questions for both phases. Each of these findings will now be explored in greater depth with reference to the relevant literature.

Table 5

Research Questions Linked to Key Findings.

Phase	Research Question	Key Finding
One	How do teachers support student test-anxiety in schools?	**Teacher Support of Test-Anxiety:** Teacher support for test-anxiety can be grouped into six categories: cognitive, behavioural, emotional, social, motivational, and environmental. The most common approach used by teachers was that of social support. It was recognised that teacher support could include multiple layers of support across all categories and be adapted depending on individual need. Finally, teachers could have a role in alleviating or increasing student test-anxiety.
Two	What are teacher experiences of supporting students with test-anxiety in the context of a pandemic?	**Teacher Support of Test-Anxiety in the Context of a Pandemic:** The support provided by teachers included identifying student need, and academic and emotional support. In addition to this, teachers adapted to a new way of working and experienced a lack of control during covid-19. Teachers also referred to other roles involved in managing student test-anxiety such as parents, peers, SLTs, and tutors.

What are teacher views of how test-anxiety support could be improved following a pandemic?	**Changing Teacher Practice Following a Pandemic:** Teachers suggested that support for test-anxiety could be improved in the classroom by increasing teacher knowledge, increasing teacher time and capacity, and considering change within school environments, and the political and educational contexts. There were multiple barriers in the context of the pandemic including missed opportunities and increased pressure on students, a lack of time, social restrictions, teacher self-efficacy, and higher levels of anxiety in general which must be accounted for to improve support in the future.
How can EP's previous experiences of supporting schools with test-anxiety inform future support for test-anxiety following a pandemic?	**Educational Psychologist Support of Test-Anxiety:** EPs have used systemic approaches which recognise individual need at both the student and school level, open dialogue with schools, planning meetings, and increased target groups and group work with students, with the aim to increase whole school capacity. Finally, EPs utilised their role via techniques including training, consultation, and intervention.
What are EP's views of the barriers to supporting schools with test-anxiety following a pandemic?	**Competing Demands in the Context of a Pandemic:** There are multiple challenges that EPs have experienced when working with schools including time and capacity issues, a lack of awareness of test-anxiety in schools, and a lack of EP experience, as well as adjustments to remote working and uncertainty in the covid-19 context. Additionally, there are new priorities in schools currently due to gaps in CYP's learning, the necessity to plan for the future, and increased levels of generalised anxiety.

4.2.1 Teacher Support of Test-Anxiety

It can be concluded from phase one that there are varying techniques that can be used by teachers to support students with test-anxiety. This conclusion was reached following a framework analysis in the systematic literature review (SLR) where support was grouped into

six categories using the IFF (Morton & Frith, 1995): cognitive, behavioural, emotional, social, motivational, and environmental. Within these categories support may include:

- Cognitive: improving student study skills, revision techniques and giving resources.
- Behavioural: teaching methods and increased demands and pressure from teachers.
- Emotional: reassurance and encouragement.
- Social: supportive interactions, valued relationships, and language of fear appeals.
- Motivational: motivational comments.
- Environmental: microsystem (family and peer influences), and exosystem (government, political and educational system influences).

Teacher support at a social level appeared to be the most common approach within the studies identified in the SLR, where the importance of developing supportive relationships with students was highlighted. Some previous literature suggests that improving relationships between students and teachers, and students and their peers, could reduce test-anxiety in schools (Liu, 2012; Martin & Marsh, 2008; Ringeisen & Raufelder, 2015). Indeed, more generally Wit et al. (2011) found there was a strong correlation between teacher-student relationships and mental health for high school students in Canada. They found that as teacher support was reduced, student mental health decreased, therefore, emphasising the significance of teacher social support in schools. However, Hoferichter et al. (2014) reached the conclusion that the interpersonal relationships between students and teachers were not connected to expectations or pressure related to levels of test-anxiety. Additionally, Hoferichter and Raufelder (2015) found there were no direct effects between teacher-student relationships and test-anxiety. The research by Hoferichter et al. (2014) and Hoferichter and Raufelder (2015) was conducted in Germany where the educational system differs from that of the UK. As such, it was unclear in the methodology sections of these studies if the students attended an academic secondary school where they were required to take examinations equivalent to GCSEs, or if they attended a secondary school without high-stake examinations. Thus, more information is needed on the role of teacher-student interpersonal relationships and how this could influence test-anxiety. Indeed, research by Kim and Asbury (2020) during the covid-19 pandemic highlighted teachers views on the importance of relationships in the classroom and how they had come to an abrupt ending for some since the closure of schools. This research was not on the topic of test-anxiety but highlights the significance of social support in schools in times of adversity. Finally, this finding supports the claim in a model of

test-anxiety that social influences, such as peer and teacher anxiety, are likely to influence test-anxiety (Lowe et al., 2008; Segool et al., 2014).

In addition to the use of varying support techniques, it was suggested that teachers could offer support across multiple levels, using a combination of techniques, for example, providing students with study skills, using teaching methods to actively engage students in lessons, and communicating with motivational and supportive language with the aim of alleviating test-anxiety. This supports claims by Carsley and Heath (2018), Flitcroft et al. (2017) and von der Embse et al. (2013) who suggested that interventions should include multiple techniques to support students, for example, teaching relaxation and study skills. Indeed, Putwain and Pescod's (2018) evaluation of a test-anxiety intervention combined multiple techniques including teaching study skills, CBT approaches and relaxation techniques which were shown to be effective in alleviating test-anxiety in students. Although this previous research refers to support via interventions, it can be concluded from the SLR that individual teacher support for test-anxiety within the classroom could also be effective. Therefore, it is important for teachers to support students with test-anxiety using multiple techniques so that they can provide support for students by ensuring an inclusive approach that can be adapted depending on student need.

Findings from this research suggest that teachers have a clear role in supporting student test-anxiety. Yet, this role is not always a positive one, indeed findings from phase one suggest that teachers have a role in both alleviating and increasing student test-anxiety. This has been supported previously in the literature where mixed reports were given about how teachers support student wellbeing in the classroom (Curby et al., 2013; Ruzek et al., 2016). Denscombe (2000) reported that teachers could have a negative impact and could be known to increase student stress levels. However, this was not a finding from the interviews in phase two, therefore further exploration is needed to confirm this finding from the SLR.

In summary, teachers play a key role in supporting students in the build up to high-stake examinations. This is illustrated in the SLR where it was concluded that teachers can support students with test-anxiety using varying techniques. It will be important to increase teachers' understanding of their role in supporting students with test-anxiety in the future, so they are able to adapt their approach to individuals. The role that teachers have in supporting CYP with high-stake examinations can be linked back to Bronfenbrenner's (1979) bioecological systems theory. Within this, teachers sit within the microsystem where teachers are key to

supporting CYP's development and wellbeing, in this case test-anxiety, and emphasis is placed on their interaction with students.

4.2.2   *Teacher Support of Test-Anxiety in the Context of a Pandemic*

Phase two of this research aimed to extend our knowledge of teacher support for test-anxiety to the current context of the covid-19 pandemic. As discussed in 4.2.1, teachers have a role in supporting students with test-anxiety, and phase two of the research enabled an exploration of teacher experiences in a unique context. As yet, there is very little research in the UK to support conclusions from this research, therefore some of the literature discussed in the next sections may be more specific to mental health needs in general, or not carried out in the context of a pandemic, and should be treated with a degree of criticality.

A key finding from the teacher interviews was that teachers saw their role as primarily academic. Teachers discussed supporting students in this way during covid-19 by providing revision techniques, specific study skills and resources that were needed for examinations. The current findings provide evidence to support research by Flitcroft et al. (2017) prior to the pandemic. They indicated that teachers aimed to develop students as independent learners and teach study skills to motivate them towards exams (Flitcroft et al., 2017). Thus, academic support was recognised as a priority for teachers in supporting test-anxiety both during and prior to the pandemic. However, these findings could contradict the findings in phase one. In the SLR, student informants in research by Chamberlain et al. (2011) and Scholze and Sapp (2006) reported that teaching study skills and providing revision resources, was unlikely to be helpful in alleviating test-anxiety and that students would rather rely on their own resources in the build up to examinations.

Another finding was that of emotional support where teachers offered students opportunities to check-in and gave reassurance and encouragement. This was challenged due to feelings of a lack of control and uncertainty about how to support students during covid-19. This is consistent with previous research that has suggested a sense of uncertainty and unknown has been experienced by many professionals, including teachers and psychologists, throughout covid-19 (BPS, 2020a; Kim & Asbury, 2020). Indeed, within the medical community it has been reported that covid-19 has raised uncertainty and doubt about the disease itself (Koffman et al., 2020), perhaps causing more worry for the general population. Ren et al. (2020) and Usher et al. (2020) reported that when there is uncertainty about a disease and a

change in environment, people are more likely to feel unsafe and anxious, and lack control of how to manage these changing circumstances. In the current research the feeling in schools was described as chaotic during covid-19, and it was found that there was a general lack of certainty in schools around what was happening with examinations in 2020. It was not directly discussed how this feeling impacted on teacher wellbeing within this study. However, a study in the US by Anderson et al. (2021) reported findings that teacher stress levels had increased during covid-19 and a general lack of certainty, and in the UK Kim et al. (2020) suggested that this could have a damaging lasting impact on teacher wellbeing.

It is important to consider the role of other school staff in supporting students with test-anxiety as this was referred to by teachers in the current study. There is limited comparable evidence for this claim, however in relation to mental health support in schools, Moon et al. (2017) claimed that school mental health professionals and administrators were more likely to deal with CYP's mental health needs compared to teachers. This links to findings in the current research where teachers referred to other services as key to supporting test-anxiety, such as a school counsellor or pastoral staff. As such, it could be suggested it was perceived by teachers that they did not have a role in supporting test-anxiety during covid-19. However, this could also be linked to teacher self-efficacy in the current research where teachers appeared to lack a belief in themselves that they could support students with test-anxiety. Indeed, the move to remote working may also have had an impact on teacher self-efficacy. These findings support research carried out during covid-19 by Ehren et al. (2021) and Ma et al. (2021) who found that teacher's self-efficacy was decreased when working remotely. On the contrary, research by Ellis et al. (2020) in the context of teacher education found that change in the way of working during covid-19 had been positive and classed as innovative whereby collaborative meetings were moved online, and there were recognised benefits to virtual working (Bubb & Jones, 2020; EEF, 2020).

It can be concluded that teachers took academic and emotional roles in supporting students with test-anxiety during covid-19. This supports findings in phase one in consideration of research that was carried out prior to the pandemic that suggested teacher support fits into a variety of categories when supporting students with test-anxiety. Yet, covid-19 may have brought about some broader issues that teachers may not be able to manage within their day-to-day practice, such as feelings of uncertainty and lack of control in a pandemic, and a rise in mental health difficulties overall for CYP. Thus, further clarification needs to be given about the role of teachers in supporting test-anxiety during a pandemic.

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4.2.3   Changing Teacher Practice Following a Pandemic

The findings from this research suggest there is a need to improve support for student test-anxiety following covid-19. In the current study, changes within the school environment, as reflected in Bronfenbrenner's (1979) microsystem, such as addressing social comparison amongst peers and examination hall set up, could be useful in reframing and supporting students with test-anxiety. Segool et al.'s (2014) model of test-anxiety incorporates environmental factors that are likely to influence test-anxiety such as school climate and educational context which suggests a need for these factors to be addressed to support CYP with test-anxiety. Additionally, changes to the wider systems that influence the testing culture and emphasis on grades in schools could be necessary to improve support. This links back to Bronfenbrenner's (1979) exosystem and highlights the influence that political and educational systems have on CYP's development. This is supported by research carried out during the pandemic with calls for schools to move away from a focus on academic achievement and increase social and emotional support (Carvalho et al., 2020; Iyengar, 2020).

The current research highlights the need to increase teacher knowledge of test-anxiety to improve support in the classroom. Findings from research by Forrest et al. (2019) suggest that enabling teacher change can be brought about through increased knowledge of positive outcomes, collaboration, and reflection. However, a critical approach must be taken towards Forrest et al.'s (2019) case study as it may not be transferable to other contexts due to unrepresentative and small sampling. Nevertheless, time for reflection considering the pandemic and opportunities to increase teacher knowledge may aide improving teacher support for test-anxiety. To facilitate reflective practice, EPs could provide collaborative supervision processes (Dunsmuir et al., 2015; Kelly et al., 2016), or meet the training needs of school staff through the dissemination of psychological knowledge (Flitcroft et al., 2017) (see 3.3.9).

Despite teachers wanting change, several barriers were identified which may prevent this. As discussed in 4.2.2, feelings of uncertainty increased stress amongst teachers (Anderson et al., 2021), thus acting as a barrier to supporting students with test-anxiety. Accordingly, stress was increased due to teacher concerns about the physical classroom environment and how they could support students due to social distancing measures (Anderson et al., 2021). This was also apparent in the current research where teachers had found social restrictions to be a

barrier to supporting students. Furthermore, increases in teacher stress may prevent teachers from being able to support students to the best of their ability if they are feeling under pressure themselves (Kim & Asbury, 2020). To support teachers with increased stress there may be a role for EPs to consult with and supervise school staff with the aim of empowering staff and increasing self-efficacy. However, findings from the EP interviews suggest there was a lack of experience and understanding of what the EP role was in supporting test-anxiety (see 3.3.11). Considering teacher wellbeing the Division of Educational and Child Psychology (DECP) released advice with recommendations on how to increase teacher resilience during covid-19 due to increased self-doubt and a lack of self-efficacy (Duffield & O'Hare, 2020) suggesting there is a role for EPs in supporting teacher wellbeing.

Findings in this research support claims about a loss of learning amongst CYP and gaps in academic abilities due to covid-19 (Kim et al., 2020). This was reflected by the teachers and EPs in the current research following school closures and a move to online learning. There were concerns that catching up on missed work may be prioritised (DfE, 2021d), despite claims of increased mental health difficulties in CYP and calls for a 'recovery' curriculum to be focused on improving wellbeing (Carpenter, 2020), as discussed in 3.3.6 and 3.1.3. This focus on lost time could be influenced by media reports highlighting gaps in CYP's learning (Hyman, 2021; Smith, 2021) and government legislation suggesting the need for CYP to catch up (DfE, 2021d). Yet, there has been some research during covid-19 that has suggested there have been some benefits to school closures and social restrictions. Berard et al. (2021) found that in France, children with ASC had improved their communication skills at home due to reduced stress caused by sensory and social stimulation in the school environment. In the USA, Neece et al. (2020) reported a benefit from covid-19 was families spending more time together. Furthermore, in a UK study a minority of parents reported that covid-19 was not harmful but instead offered their child safety, calm and respite to stay at home when it was known that their child had a difficult time at school (Asbury et al., 2021).

Another barrier to changing support in schools that was highlighted prior to and during covid-19 was time and capacity constraints on the teacher role. Forrest et al. (2019) reported that time was a key factor to influence teacher practice change, including time for professional development, reflection, and discussion. This was also a concern for teachers in the current study where teachers commented on the limit of time within their role. As was discussed in 3.3.5, time is an ongoing constraint to teacher practice (Collinson & Fedoruk Cook, 2001; Round et al., 2016; Sellen, 2016).

Finally, findings in the current study suggest that mental health difficulties, such as anxiety, have increased amongst students during covid-19. Generalised anxiety has been reported to be one of the most prevalent mental health difficulties in adolescence (Green et al., 2005; von der Embse et al., 2018) and prior to covid-19 anxiety was increasing amongst CYP (Collishaw, 2015). This increase in generalised anxiety could also lead to an increase in other anxiety and mood related disorders due to comorbidities (Gale & Davidson, 2007; Tyrer & Baldwin, 2006). During covid-19, Hemanth (2020) highlighted that students have reported reduced examination stress due to the cancellation of examinations, but increased anxiety in other areas, such as uncertainty about the future or worry about friends and family becoming unwell. As discussed in 2.1.2, test-anxiety sits within the broader context of mental health difficulties in schools, and, due to the limited research on this topic it was important to widen my literature search and comparative comments to teacher support for mental health difficulties prior to the pandemic. It has previously been recognised that teachers have a role in supporting CYP's mental health in schools, but there is a limit to their role and they should not act as mental health experts (DfE, 2018). Despite teachers being named as having a key role in mental health support in the legislation, there is a lack of knowledge and understanding about how to meet the needs of students with mental health difficulties. Within the current research teachers cast doubt over their role in supporting test-anxiety, but this may be linked to a lack of self-efficacy amongst teachers during the pandemic. Nevertheless, prior to covid-19 there were calls to increase teacher knowledge about mental health through training and resources available to schools (Cohall et al., 2007; Frauenholtz et al., 2017; Graham et al., 2011; Kratt, 2019; Moon et al., 2017; Moor et al., 2007; Shelemy et al., 2019). This supports findings in the current study where there was recognition of the need to increase teacher knowledge of this topic.

It can be concluded from the teacher perspectives in this study that teacher support for test-anxiety could be improved following covid-19. Consideration needs to be given to the most effective ways to facilitate this change. Additionally, there are multiple barriers which may impact teacher support for test-anxiety. Some of these barriers may ease following the lifting of covid-19 restrictions, such as increased teacher stress, however work will need to be done to support teachers with the barriers that will still exist following the pandemic, such as limited time and capacity, so that they are able to effectively support students with test-anxiety in the future.

4.2.4   Educational Psychologist Support of Test-Anxiety

Alongside understanding teacher support, this research aimed to understand how EPs previous experiences of supporting test-anxiety could inform future support following covid-19. It was found that there were a variety of approaches that EPs used across their varying role, systemic approaches and approaches specific to the EP role. A weakness to this finding is that some EPs had limited experiences of supporting schools with test-anxiety, as discussed in more detail in 5.1. Therefore, it is important to be critical of the approaches recommended for future support in this thesis.

EPs highlighted the need to recognise the individuality of CYP and schools so that they can work more effectively and offer targeted support. Previously it was reported that adults lacked knowledge of what it is like to be a student in the modern day (Atkinson et al., 2019). Therefore, following this research it will be important to listen to student voice and understand student perceptions around examinations, test-anxiety, and covid-19 to inform future support due to limited research and understanding of this topic.

Psychological approaches specific to the EP role, namely training, consultation and intervention (Fallon et al., 2010) were commonly discussed by EPs. As discussed in 3.3.9, this could be an effective way of working if EPs can upskill school staff and move away from an expert model (Flitcroft et al., 2017) by utilising psychological approaches to underpin practice (Law & Woods, 2018).

Finally, in this research EPs spoke about working systemically with schools to build whole school capacity. These findings fit with Bronfenbrenner's (1979) bioecological systems theory which suggests that there are multiple influences on the child. If EPs can work with adults within the microsystem around CYP this will empower staff and enable them to support CYP with test-anxiety, as discussed in 4.2.1. Hoferichter et al. (2014) suggested EPs have a role in promoting social networks within schools to support successful learning and reduce stressors, such as test-anxiety. It has previously been suggested that the use of systemic models enable EPs to move away from the deficit model where problems are seen to be within child (D'Amato et al., 2005; Wilding & Griffey, 2015), with a shift towards increased understanding of multiple environmental influences, as reflected in Bronfenbrenner's (1979) bioecological systems theory and a test-anxiety model that highlights the social and environmental influences that are likely to influence test-anxiety experiences (Lowe et al., 2008; Segool et al., 2014). Yet, there are reported barriers to this

way of working, a notable example is SENCO's perception of the EP role and wishing to prioritise EP time for individual casework rather than whole school systemic working (Ashton & Roberts, 2006; Love, 2009). Furthermore, a lack of collaboration with schools could be seen to influence how whole school support and interventions are embedded (Soares & Woods, 2020).

There appear to be some overlaps between teacher support and previous EP experiences. A notable example is that both EPs and teachers acknowledged the need to recognise individual student need and identify CYP who are struggling. Furthermore, one teacher recognised the need for increased knowledge of test-anxiety via training. However, within the teacher interviews, there was no mention of how an EP may be able to support schools with test-anxiety which may account for EPs' lack of experience in this area. A possible explanation for this is that teachers felt it was a within school issue and not something that should be escalated to support external to the school, such as the EPS. Another explanation is that this was not prompted by the interview questions. Yet, it would be interesting to observe differences in the findings if SENCOs were interviewed as they are more aware of the EP role and may see this as something that could be supported. Indeed, this would have enabled a greater understanding of how EP and teacher support for test-anxiety may work in collaboration. However, as will be discussed in 5.2.1, the link between test-anxiety and EP role could still be questioned. Furthermore, the topic of test-anxiety within schools may be something that can be supported at school level as previously mentioned. This may be due to other priorities identified in schools at the moment, such as support for vulnerable children during covid-19 (DfE, 2021d) and the catch-up curriculum (DfE, 2021c).

It can be concluded that EP experiences of a variety of approaches may be helpful when supporting schools with test-anxiety in the future. Following covid-19, working with schools to identify CYP who need support for test-anxiety could be useful, in the first instance increasing teacher knowledge so they are better able to identify CYP with test-anxiety themselves. Consequently, this will build on whole school capacity through the dissemination of psychological knowledge amongst staff teams.

4.2.5 Competing Demands in the Context of a Pandemic

The current study found that EPs have experienced many barriers to supporting schools with test-anxiety, some of which are connected to the current covid-19 context. A key finding in

the discussion of barriers to offering support was suggested to be a change in the way of working, shifting to virtual assessment methods and online meetings. Previous reports and legislation have highlighted this shift in the use of technology with an awareness of the challenges this may present (AEP, 2020a, 2020b; BPS, 2020a, 2020b; HCPC, 2020), as discussed in 3.3.11. This will have an impact on EP access to schools if social distancing restrictions are still in place in the future. This change in the way of working should continue to be discussed amongst the EP community so new and innovative ways of working can be shared and seen to benefit stakeholders.

Alongside teacher views discussed in 3.3.5 and 4.2.3, EPs raised concerns about a catch-up curriculum and gaps in CYP's learning (DfE, 2021d) and suggested that this could be why schools were not prioritising EP support for test-anxiety. In a discussion about the education systems in Finland and Australia, Sahlberg (2021) argued that covid-19 had shown that schools should be recognised as supporting CYP holistically across all aspects of life rather than just knowledge acquisition. Thus, a shift in focus away from the narrative of catching up and the "lost-generation" (Hyman, 2021) due to covid-19 may emphasise the role for EPs in supporting staff and CYP with social, emotional, mental health and wellbeing as a priority on the return to school (Carpenter, 2020; Carvalho et al., 2020; Iyengar, 2020). Yet, one issue that continues to emerge from these findings is the question of what is known about the EP role and test-anxiety, as will be discussed further in 5.2.1. Within this research there was a lack of EP experience of supporting schools with test-anxiety, and the role of the EP on this topic was not raised by teachers which may accentuate the questionable role EPs have in this area.

The challenge of increased mental health needs in schools was raised by EPs in the current research and was consistent with previous findings in the literature. During covid-19 there has been a wealth of research that reports increased concern about mental health difficulties for CYP (Brooks et al., 2020; Fegert et al., 2020; Joseph, 2020; Kwong et al., 2020; Loades et al., 2020; Orgilés et al., 2020; Pierce et al., 2020; Rettie & Daniels, 2020; Young Minds, 2021), as discussed in 3.1.3 and 3.3.12. Yet, prior to covid-19 it was reported that mental health and wellbeing difficulties were rising amongst CYP (Collishaw, 2015; Deighton et al., 2019; DfE, 2017; Olfson et al., 2014; Patton et al., 2014; Pitchforth et al., 2019), as discussed in 2.1.2. This suggests that there have been, and continue to be, concerns about CYP's mental health within schools and support for this should be prioritised. The implications for EPs and mental health support in schools are discussed in more detail in 5.2.3.

This research suggested a pre-existing challenge for EPs prior to covid-19 was lack of time and capacity to support schools with test-anxiety due to the nature of their statutory roles. This finding broadly supports claims that have previously been made about how the statutory role of the EP may impact on how time is prioritised (Ashton & Roberts, 2006; Boyle & Lauchlan, 2009; Fallon et al., 2010; Gibbs & Papps, 2017; Marsh & Higgins, 2018). Despite concerns of increased mental health and anxiety in schools during covid-19, the statutory role for EPs continued to take priority and did not change in light of the pandemic (DfE, 2020b). This suggests that policy and guidelines abided by EPs has an influence on how EPs prioritise their workload despite demands that may arise within the community outside of their statutory role. Although the findings from the current study suggest increased demands on EP time, statutory roles are clearly identified as part of the EP role, thus this ongoing concern for EPs could be faced following changes to the legislation with a shift towards systemic practice (DfE, 2015; Lyonette et al., 2019).

It can be concluded that, despite this research being carried out at a unique time, some of the concerns raised by EPs existed prior to the covid-19 pandemic and therefore should continue to be addressed following covid-19. In this case, as 'normality' returns following covid-19, there are calls for change in the education system (Cairns, 2020; d'Orville, 2020; Hyman, 2021; Kippin & Cairney, 2021) and to build back better (HM Treasury, 2021). This could be seen to sit well with addressing concerns that previously existed within the EP community, such as how work is prioritised or a move towards a curriculum that supports positive mental health and wellbeing. However, the articles cited here are opinion pieces and we should be critical of the evidence that this change in education is based on. Currently there is a lack of evidence and empirical research in the UK following covid-19, therefore my conclusions must be tentative.

In this chapter I summarised the findings across both phases of the current research with consideration given to the wider literature and relevant theory.

Chapter 5: Conclusion and Implications

In this chapter I will discuss the strengths and limitations of the current research. I will then discuss the implications for EPs and future avenues of research.

5.1   Critique of the Research

It is important to consider the strengths and limitations across both phases. In this section I will give an account of the critique of the current research, firstly, adding to the strengths and limitations discussed in phase one, and secondly highlighting the strengths and limitations of phase two.

5.1.1   Phase One Critique

This section contributes to the critique of the SLR in 2.4.2 which discusses the strengths and limitations of the included studies, as well as the review process itself. The critique here aims to complement and extend rather than duplicate the previous discussion.

The searches in the SLR aimed to find the extent of the literature on the topic of test-anxiety. This was a strength as it meant that I was able to include large amounts of research in my introduction and discussion sections of this thesis beyond my initial knowledge and understanding of this topic (Gopalakrishnan & Ganeshkumar, 2013; Mallett et al., 2012). Furthermore, using this method enabled me to be critical of the design of all the included studies in the SLR, more so than in a traditional literature review which was highlighted as a strength by Mallett et al. (2012). A further strength of SLRs is suggested to be explicit reporting of the methods meaning the transparency of the review is increased and the methodology is reproducible for future researchers (Gopalakrishnan & Ganeshkumar, 2013; Mallett et al., 2012). I benefited from this during a rerun of the searches in May 2021 with the purpose of identifying any new studies that had been published since the initial searching. I followed the detailed methodology to replicate the searches conducted prior to this, however no new studies were included at this stage.

My own views and assumptions will have had an influence on the screening and selection of studies, as well as the development of the inclusion and exclusion criteria. For example, the meaning of teacher approach is subjective in that I was looking for teacher role that included

teacher mannerisms or traits, whereas another researcher may have focused on the explicit role of the teacher, such as teaching methods. Thus, if another researcher carried out the screening and selection of the studies, they may have reached a different conclusion. Indeed, it has previously been suggested that the element of subjectivity to the screening processes is a weakness of SLRs, despite the use of explicit inclusion and exclusion criteria (Garg et al., 2008; Mallett et al., 2012). To overcome this limitation in the future, it could be useful to trial and conduct the screening process with another researcher to limit any bias that may have occurred, however I was unable to do this due to the time constraints of this thesis.

In the SLR the quantitative and qualitative studies were grouped together in the presentation of synthesis. Mallett et al. (2012) and Thomas et al. (2004) suggest this is a limitation to SLRs as there is a lack of clarity about how quantitative and qualitative methodologies and findings are compared in the synthesis. To overcome this in the current research, I ensured the methodology of the included studies was critiqued throughout the synthesis, as well as during the quality assessment stage. However, there was a challenge to overcoming this because I included secondary papers within the review. This meant some papers met the inclusion criteria but did not have methodologies and therefore did not go through the same, robust quality assessment process. Indeed, when I reported the findings in the SLR, all studies were given equal standing which limits the dependability of the findings.

Finally, I used a deductive approach when synthesising the findings of the studies which may increase the subjectivity of my synthesis and discussion, however I was able to adapt the framework used to synthesise the studies by using a 'best-fit' framework approach (Dixon-Woods, 2011). This enabled me to be reflective when synthesising the findings and gave flexibility in the application of the framework. If I was to carry out this review again I might take a different approach to synthesis, perhaps exploring the components of worry and emotionality in more detail within the definition of test-anxiety (Liebert & Morris, 1967) as an initial framework. Another example might be to move away from the deductive approach of framework synthesis and towards inductive approaches, such as thematic synthesis, to look beyond the content of the included studies.

5.1.2 *Phase Two Critique*

This project was restricted by the covid-19 pandemic, I have reflected on the changes made to this project in section 1.3. These changes meant there was less scope to work directly with participants due to social distancing restrictions and different ethical implications that needed to be considered to meet the university expectations. Much of the literature on the covid-19 pandemic discussed in the introduction and discussion sections of phase two is secondary research or has not been through a rigorous evaluation of the peer-review process. This is because the research was produced under time constraints during covid-19 when there was no current literature available on the topic, for example, rapid reviews carried out during covid-19 by Brooks et al. (2020) and Loades et al. (2020). Thus, references made to evidence produced during the covid-19 pandemic must be critically analysed.

Phase two of the research used a qualitative data gathering method to gain participant views. I used semi-structured interviews that allowed the interview questions to be broad and open-ended, as such enabling teachers and EPs to raise topics of conversation that were most relevant to their experiences (Choy, 2014). The study had a low number of participants (n = 14) which enabled an exploration of teacher and EP experiences of supporting test-anxiety in schools to gain detailed and insightful information. Interviews can be time-consuming when arranging time and travel for individual interviews, however this was partially overcome by carrying out the interviews online via Microsoft Teams, thus reducing travel time and costs for participants (Hewson, 2008). Carrying out the interviews online also enabled me to reach a wider group of participants (Archibald et al., 2019) which is a notable strength of this study.

Reflecting on previous research by Anderson (2010), I was aware of how my presence during the interviews may have influenced participant responses or directed the interviews. Some of the participants were known to me through work connections. To overcome this, I ensured participants had multiple opportunities to withdraw from the study and were reminded that it was a voluntary commitment to take part in the interviews. Additionally, the topic of test-anxiety was not personal to participants but rather a reflection on their previous experiences of working with students which will have ensured ease of discussion and acted as a preventative measure to me taking on a supervisory role with participants.

A limitation of this research could be the timing of the interviews. It was reflected by the EPs that test-anxiety was not a priority in schools, but EPs expected to have more involvement in the future. The interviews in this study were carried out in the Autumn term, therefore it

would be interesting to see if the findings would be different if the interviews were carried out in the following Spring term. It is difficult to know if the timing of the interviews meant that participants had less experiences of supporting students with test-anxiety, or if their limited experiences were due to other factors, such as limited connectivity with students due to covid-19 restrictions, or the topic not being prioritised in schools.

I carried out a thematic analysis of the interview data. Previously, Anderson (2010) suggested that the volume of data collected from interviews is large and can be time-consuming to interpret. However, I ensured that my timeline of the research process was up to date to manage my time and availability for the data collection and analysis so that this could not be seen as a limitation to my research. Another considered limitation of qualitative analysis is that the data are open to interpretation and the method has previously been criticised as lacking scientific rigour and increased subjectivity (Noble & Smith, 2015). Yet, interpretation of the data in this study enabled me to gain a deeper understanding of the meaning of participant experiences and allowed me to present the complexity and significance of the themes within data, which was recognised as a strength by Atieno (2009). Finally, Noble and Smith (2015) criticised the lack of transparency in qualitative analytical procedures, suggesting that the findings are often personal opinions of the researcher. To increase transparency within this research I included example coding tables from the thematic analysis within the appendices (see Appendix K).

The trustworthiness of the research should be addressed to consider the degree of confidence in the data and interpretation. I noticed that teachers were more likely to discuss their previous experiences of supporting students with test-anxiety, rather than specific to the pandemic. This could be a limitation of the topic guide as perhaps it did not reflect covid-19 and therefore prompt teachers to discuss their recent experiences. However, on reflection I feel the reasons behind this were due to their experiences being different to previous years. For example, students had not been in school consistently, and there were many uncertainties about the future, therefore teachers appeared to draw on their more concrete experiences prior to covid-19. In addition to the teachers, EPs reported a personal lack of experience of supporting schools with test-anxiety. In light of this, some EP comments could be less credible as instead they spoke about interventions or support they felt was appropriate, such as techniques used to address generalised anxiety. Yet, as discussed in section 3.3.8, it was recognised that there are benefits to supporting a larger group of students with anxiety in general (Putwain et al., 2021).

A shortcoming of this research was that student voice was not gathered so could not be triangulated with teacher views. As was explained in section 1.3, prior to covid-19 the original focus of this study was to bring together teacher and student voice to inform test-anxiety support in schools. Previous literature has stated the significance of student voice in mental health support, therefore this could be a focus for future research. Yet, a notable strength of this research is that both teachers and EPs frequently reflected on experiences for CYP and the impact that covid-19 had on them, rather than personal implications, thus highlighting the fact that CYP were at the forefront of educational professionals' thoughts in a time of adversity.

Finally, in this study my position was made explicit from the start, thus indicating the study was trustworthy and ensuring I was maintaining reflexivity. For example, I discussed my theoretical beliefs, how my personal and professional experiences influenced the way I approached the research, and how I interpreted my findings (Darwin Holmes, 2020; Jacobson & Mustafa, 2019). This is in line with expectations of the qualitative research process in the literature (Galdas, 2017). Indeed, Galdas (2017) highlighted the key role of the qualitative researcher in the research process and final project as fundamental to qualitative research, and that separation from this was not possible. Thus, I believe this study has rigor based on the extent to which I have been transparent and reflexive throughout the research process.

5.2   Implications for Educational Psychology Practice

This research highlighted important considerations for EP practice, including EP role and test-anxiety, increasing teacher knowledge, mental health support in schools, and EP role in secondary schools. These factors will now be discussed in greater depth.

5.2.1   *Educational Psychologist Role and Test-Anxiety*

In this research, it was highlighted that there was limited experience of supporting schools with test-anxiety amongst the EPs. EPs must ensure their knowledge of test-anxiety literature is up to date so that they are aware of evidence-based, preventative interventions to support students with test-anxiety, and mental health overall (Scott et al., 2018). However, previously von der Embse et al. (2013) reported that more research is needed to improve EP understanding of how to support test-anxiety. Recent research by Raymo et al. (2019) in the USA suggested that EPs could use their knowledge to identify CYP in need of support and

implement intervention with the aim of reducing test-anxiety in schools. They also reported this was crucial for school officials and policy makers who were aiming to improve CYP's performance.

Within the literature it is confirmed that EPs have a key role in providing specialist support for test-anxiety in schools (Flitcroft et al., 2017; Gregor, 2005; Putwain, 2008c; Putwain & Daly, 2014; von der Embse et al., 2013). Yet, a recent literature review about anxiety for educational assessments explored how test-anxiety can be managed in the UK, but failed to mention EPs explicitly (Howard, 2020). This suggests that the role for EPs on this topic is still not clear. The author of this review (Howard, 2020) was from an educational rather than psychological background which may have influenced the reporting; however, another informant of the review was a key researcher in the test-anxiety field who has published many papers on test-anxiety with consideration of the EP role previously, therefore it is unclear why the EP role is missing in the text. Additionally, findings in the current research suggest that EPs lack experience of supporting schools with test-anxiety, and in the teacher interviews the role of the EP in test-anxiety support was not mentioned, despite teachers referring to other support services in the interviews that might be able to help, including school counsellors and pastoral staff. Therefore, more clarity is needed on how EPs can support schools with test-anxiety in the future.

5.2.2 Increasing Teacher Knowledge

Giving school staff opportunities to increase knowledge and understanding of test-anxiety was highlighted as key to the EP role across both phases. Some previous literature reported that teachers lacked knowledge about student test-anxiety (Atkinson et al., 2019; Urhahne et al., 2011). Indeed Wisdom (2018) concluded that teachers would like professional development workshops to help improve their knowledge of test-anxiety and how to support CYP. EPs are in an ideal position to support schools with this through their application of psychological approaches (HCPC, 2015; Law & Woods, 2018).

As highlighted in phase one, working within Bronfenbrenner's (1979) microsystem as part of the wider ecological systems theory enables EPs to work alongside key adults who have a role in supporting CYP with test-anxiety. Training in schools facilitates this, where EPs can disseminate knowledge and influence change and overall positive effects within the microsystem, thus having an impact on individual CYP (Flitcroft et al., 2017; Sundhu &

Kittles, 2016). Macleod et al. (2007) presented findings that suggested training school staff to support CYP enabled EPs to add value to the whole school. Furthermore, Soares and Woods (2020) highlighted the importance of working collaboratively with schools during examination times in order to support CYP with test-anxiety. Thus, working systemically within schools enables EPs to work towards building whole school capacity and change.

5.2.3 *Mental Health Support in Schools*

Despite test-anxiety being the topic of focus in this research, it is clear from the findings in this study and recently published literature that there are concerns about mental health in general in schools. In the current research, it was suggested by EPs that they had a role in mental health support in schools, and that strategies and support for test-anxiety could be extended to support CYP with generalised anxiety (Putwain et al., 2021). Indeed, generalised anxiety has overlaps with other anxiety and mood disorders suggesting that anxiety comprises of a spectrum or continuum (Tyrer & Baldwin, 2006) and that supporting CYP across this continuum could be beneficial. This is supported in a previous systematic literature review by von der Embse et al. (2013) where it was suggested that interventions in their review could be compared to the wider evidence-base for anxiety disorders. Test-anxiety is not a current priority in schools due to examinations being cancelled, indeed EPs could take a more systemic role in supporting schools and students with the return to education following the covid-19 pandemic. However, a barrier to this might be policy and guidelines relating to the statutory role of the EP and the necessity to prioritise this work, as was made explicit during the covid-19 pandemic (DfE, 2020b).

Prior to covid-19, there were increasing concerns about the high prevalence of mental health difficulties in schools (DfE, 2017; Green et al., 2005; Olfson et al., 2014). Yet, the green paper titled "Transforming Children and Young People's Mental Health Provision" (DfE, 2017) was criticised for the lack of discussion about the role EPs have in supporting schools with mental health difficulties (O'Hare, 2017). Since then, new legislation recognised that EPs were well placed to support positive mental health in schools (DfE, 2018).

There are now concerns about the mental health and wellbeing of CYP following the covid-19 pandemic due to social distancing, isolation and restrictions on social contact, and school closures (Bhopal & Myers, 2020; Brooks et al., 2020; Fegert et al., 2020; Joseph, 2020; Loades et al., 2020; Orgilés et al., 2020; Rettie & Daniels, 2020; Young Minds, 2021).

Despite only some of the recent literature being carried out in the UK, this emphasises the need for robust support for mental health difficulties in schools following covid-19. It is vital that EPs are recognised for their role in the promotion of positive mental health so that they can work proactively with schools to support CYP in the current context.

5.2.4   Support in Secondary Schools

An implication that arose from this research concerns who EPs work with and their role with different staff within the school context. This question: "who is the client?" was originally asked by Lucas in 1989 (p.171). The primary client was identified as CYP with reference to the need to work with others around CYP where beneficial (Lucas, 1989). Early research which discussed the EP role suggested there was a need for liaison with teachers (Wood & Collins, 1985) and pastoral support for headteachers (Gupta, 1985). Following this, MacKay (2002) claimed that EPs work with a wide group of people which could include CYP, school staff and education professionals. Thus, consideration must be given to how EP work could look different depending on the experiences and expectations of the staff they are working with (Love, 2009).

There is variability in the literature about who EPs work with, and this is apparent in the findings of this study. The role of the SENCO was raised in the EP interviews with reference to the SENCO as the main point of contact for liaison with schools. Yet, contrasting findings from the teacher interviews suggested that school counselling and pastoral support services were the main source of support for test-anxiety. This raises implications for the EP role in secondary schools as SEN and pastoral services overlap in support for SEMH and wellbeing, both key topics for EP support as outlined in the SEND Code of Practice (DfE, 2015). In the UK, the SEN and pastoral services are often separate in secondary schools meaning that SENCOs may not always be aware of pastoral needs within the school. The special educational needs and disability review report by Ofsted in 2010 highlighted this distinction, whereby a recommendation in the report was that "schools should stop identifying pupils as having special educational needs when they simply need better teaching and pastoral support" (p.72). Therefore, it will be important for EPs to consider working in collaboration with SENCOs, pastoral support services and SLT to ensure that they are reaching students who are experiencing test-anxiety (see 3.3.10). This also highlights the value of EPs working

systemically with schools so they can work across multiple staff groups to effect change for CYP.

5.3   Future Research

Due to there being a general lack of research in the context of a global pandemic, the conclusions made in this research could be seen to be tentative and the topic will benefit from future research to make comparisons and critique the current research. Some suggestions for future research will be discussed next.

This research gained teacher and EP views about their experiences of supporting students with test-anxiety, specifically during covid-19. However, student voice is missing and plays a key role in bridging the gap between test-anxiety and examination experiences so that educational professionals understand how to support students in the build up to high-stake examinations. Therefore, following the covid-19 pandemic it will be useful to explore student experiences of test-anxiety, alongside teachers to inform test-anxiety support in schools. This recommendation is consistent with previous research by Atkinson et al. (2019) and Platell et al. (2017) who suggested that recognising student voice in the development of interventions that are effective and preventative is a priority to supporting mental health in schools.

Another avenue of future research considers educational professionals' understanding and knowledge of student test-anxiety. Whilst there is increasing research on test-anxiety in the UK, little is known about teacher knowledge of test-anxiety and how such knowledge can be increased. This was also highlighted in the findings of the current research as there appears to be a lack of teacher and EP knowledge about test-anxiety. There are still many unanswered questions about how much teachers know about test-anxiety and this will be an essential starting point for increasing teacher knowledge and thus improving support for CYP who are experiencing test-anxiety. As stated by Raufelder et al. (2018), there is a need for teachers to be aware and sensitive to students' individual needs around test-anxiety, and in the first instance this can be achieved by increasing knowledge of the topic.

Finally, future research could be undertaken at a different time and context to the current research. Phase two was carried out during the covid-19 pandemic, this meant there was little comparable research to discuss on this topic. At the time of the interviews, the landscape around examinations in England was uncertain. In addition to this, little was known about when covid-19 might end and if schools would close again making this a particularly

unsettling time for teachers. If interviews had been carried out when school closures had been initiated again in the Spring term, or if it was known that examinations in England would be cancelled then I believe my findings would have been very different and perhaps teachers would have had less or different concerns. However, there could have been more of a focus and concerns for those students due to take examinations in the coming years due to gaps in their education. It would be useful to replicate this study a year on to gain EP, teacher, and student experiences of test-anxiety following covid-19.

5.4   Concluding Comments

Findings from this research contribute towards the growing evidence-base of support for test-anxiety in the UK. This research is novel in that it is the first systematic literature review carried out to understand what is already known about how teachers support test-anxiety so that gaps in the literature can be highlighted. This research enabled me to extend our knowledge and understanding of teacher support in a context pre-pandemic to the covid-19 context. It was carried out at a unique time, yet some of the findings in phase two highlight consistencies with research that was carried out in a pandemic-free context. This facilitated reflection on the similarities and differences across the two different contexts to understand what experiences were like in the context of the pandemic, and what support might look like following covid-19. For example, some of the concerns raised prior to and during the pandemic, such as teacher knowledge or EP time and capacity, should continue to be addressed following covid-19 to effectively support CYP with test-anxiety in the future.

I began this research process by looking through a wider lens at mental health and wellbeing before focusing on test-anxiety in schools and understanding support at a systemic level. Although specifically focusing on test-anxiety throughout the research process, phase two findings enabled me to broaden the topic back out to mental health experiences in general. This was through EP and teacher discussion of other priorities in schools due to the covid-19 context. This narrative is perhaps a reflection that there is ongoing concern for mental health difficulties amongst CYP in the UK education system which could have increased during the pandemic.

Finally, the broad significance of this study is that it has improved our understanding of the role of educational professionals in supporting test-anxiety. In addition to this, the current

research has shed light on the unique challenges around examinations and examination-anxiety faced in schools during covid-19 for a specific cohort of CYP, teachers, and EPs.

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Appendices

Appendix A   Search Syntax Used in Each Database

Database	Search Terms
EBSCO host - ERIC - Education Research Complete	AB Abstract: "test anxiet*" OR "exam* anxiet*" OR "test stress" OR "exam* stress" AND TX All Text: teach* N5 (role OR support OR strateg* OR approach* OR method*) AND TX All Text: (school* OR "sixth form" OR college*) NOT universit*
Ovid host - APA PsycInfo	Keyword: test anxiet* OR exam* anxiet* OR test stress OR exam* stress AND Keyword: teach* adj5 (role OR support OR strateg* OR approach* OR method*) AND Keyword: (school* OR sixth form OR college*) NOT universit*
Web of Science	AB Abstract=("test anxiet*" OR "exam* anxiet*" OR "test stress" OR "exam* stress") AND TS Topic=(teach* NEAR/5 (role OR support OR strateg* OR approach* OR method*)) AND TS Topic=((school* OR "sixth form" OR college*) NOT universit*)

Appendix B   Screening and Selection Tool

Reviewer name:		Date:
Author/s:		Year:
Title:		Journal:
CRITERIA	**INCLUDE**	**EXCLUDE**
Type of research	☐ Original/primary research. ☐ Secondary research e.g. discussions, review articles, conference presentations.	N/A.
Publication requirements	☐ Published in a peer-reviewed journal. ☐ Published in a book, non-peer-reviewed work, unpublished full-texts e.g. theses or dissertations, research reports, paper collections.	N/A
Language	☐ Written in English. ☐ English abstract available.	☐ Written in any language other than English.
Context	☐ Mainstream schools or colleges.	☐ University.
Methodology/study design	☐ Qualitative, quantitative and mixed methods design.	N/A
Aims/Findings/Discussion	☐ Teacher strategies to support test-anxiety. ☐ Teacher role to supporting text-anxiety. ☐ Teacher methods to support test-anxiety. ☐ Teacher support for text-anxiety. ☐ Teacher approaches for supporting test-anxiety.	☐ Does not report any data specified in inclusion criteria.
FINAL DECISION	☐ **INCLUDE**	☐ **EXCLUDE**

Appendix C   Excluded Studies After Stage Two Full-Text Screening

Reference	Rationale for Exclusion
Aida, Y. (1994). Examination of Horwitz, Horwitz, and Cope's Construct of Foreign Language Anxiety: The Case of Students of Japanese. *The Modern Language Journal*, *78*(2), 155–168. https://doi.org/10.1111/j.1540-4781.1994.tb02026.x	**Study aim and findings not specific to test-anxiety.** Focus of this study was specific to foreign language anxiety and validation of the Foreign Language Classroom Anxiety Scale.
Allen, K. A., Fortune, K. C., & Gökmen, A. (2021). Testing the social-ecological factors of school belonging in native-born, first-generation, and second-generation Australian students: A comparison study. *Social Psychology of Education (2021).* https://doi.org/10.1007/s11218-021-09634-x	**Study aim and findings not specific to test-anxiety.** This study aimed to understand how the socio-ecological factors of school belonging differ between immigrant and native-born students in Australia.
Atasheneh, N., & Izadi, A. (2012). The Role of Teachers in Reducing/Increasing Listening Comprehension Test Anxiety: A Case of Iranian EFL Learners. *English Language Teaching*, *5*(3), 178–187.	**Study context- university.** This study aims to understand teacher role in supporting students with foreign language anxiety. Foreign language anxiety is split into three components: communication apprehension, test anxiety, and fear of negative evaluation.
Austin, J. S., Partridge, E., Bitner, J., & Wadlington, E. (1995). Prevent School Failure: Treat Test Anxiety. *Preventing School Failure: Alternative Education for Children and Youth*, *40*(1), 10–13. https://doi.org/10.1080/1045988X.1995.9944644	**No specific discussion/conclusions about teacher role in supporting test-anxiety.** An article with no introduction, method, results and discussion section. This article discusses relaxation techniques and systematic desensitisation as methods of supporting students with test-anxiety in schools to prevent school failure.

Ayuso, N., Fillola, E., Masia, B., Murillo, A., C., Trillo-Lado, R., Baldassarri, S., Cerezo, E., Ruberte, L., Mariscal, D., M., & Villarroya-Gaudo, M. (2021). Gender Gap in STEM: A Cross-Sectional Study of Primary School Students' Self-Perception and Test Anxiety in Mathematics. *IEEE Transactions on Education, 64*(1), 40-49. doi: 10.1109/TE.2020.3004075	**Study aim and findings not specific to test-anxiety.** This study aimed to understand the aspects that influence experiences in mathematics in primary school students from any socioeconomic background. The study also considers teachers' awareness of children's perceptions of differences in mathematical competencies between gender.
Bakunas, B. (1993). Putting the lid on test anxiety. *Learning*, *22*(2), 64. Education Research Complete.	**Full-text unavailable.** This article looks at how to help students control test-anxiety by minimising fear, teaching a systematic study method, and consulting educational professionals.
Balkam, B., E., Nellessen, J., A., & Ronney, H., M. (2013). Using collaborative testing to reduce test anxiety in elementary and middle school students [Online Submission Master of Arts Action Research Project, Saint Xavier University]. In *Online Submission*. ERIC.	**No specific aim or findings for teacher role in supporting test-anxiety.** In an action research project the students took part in three different interventions: collaborative test taking, practicing test taking strategies and taking differentiated tests. They found that following these interventions students experienced a positive change in the way they viewed taking tests.
Beidel, D. C., Turner, S. M., & Taylor-Ferreira, J. C. (1999). Teaching Study Skills and Test-Taking Strategies to Elementary School Students: The Testbusters Program. *Behavior Modification*, *23*(4), 630–646. https://doi.org/10.1177/0145445599234007	**No specific aim for teacher role of supporting test-anxiety.** This study indicates that the Testbusters program may be an effective program for decreasing test anxiety.
Bhadwal, S. C., & Panda, P. K. (1992). The composite effect of a curricular programme on the test anxiety of rural primary school students: A one-year study. *Educational Review*, *44*(2), 205–220. https://doi.org/10.1080/0013191920440208	**No specific aim or findings for teacher role in supporting test-anxiety.** This study uses a randomised control trial study design to understand the effectiveness of a selected curricular programme to reduce test-anxiety in students.

Boe, B. L. (1994). A Democratic Assessment Strategy.	**No specific discussion/conclusions about teacher role in supporting test-anxiety.** This conference paper discusses alternative teaching strategies such as cooperative group work and cooperative assessment strategies in action.
Bowman, N., & Driscoll, R. (2013). Test Anxiety Reduction and Confidence Training: A Replication. *Online Submission*.	**No specific findings/discussion/conclusions about teacher role in supporting test-anxiety.** This article replicates prior research in which a brief counter-conditioning and confidence training program was found to reduce anxiety and raise test scores for students.
Boyle, J. (2021). Mental health and the high-performing student: A study of stressors and effective supports for high-achieving high school students. *Dissertations*. 361. https://digitalcommons.brandman.edu/edd_dissertations/361	**Full-text unavailable.** This dissertation aimed to explore the academic and social stressors and coping strategies of students taking the International Baccalaureate (IB), Advanced Placement (AP), or Honors courses.
Cizek, G. J., & Burg, S. S. (2006). *Addressing test anxiety in a high-stakes environment: Strategies for classroom and schools.* Corwin Press.	**Full-text unavailable.** This practical book includes an overview of the concept of test anxiety; a glossary of assessment and measurement terms; current research findings on test anxiety and which students it is most likely to affect; information on the prevalence, correlations, and effects of test anxiety; situations in which test anxiety can be helpful; and suggestions for preventing and reducing the effects of test anxiety.
Cornelius, M. E. (1980). Individual oral testing as a method for reduction of test anxiety and expression of content comprehension. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 41, 1367.	**Study context- university.** This study aimed to explore oral individual testing as a teaching technique, as well as an evaluative tool, with anatomy-physiology students. The research was also concerned with students' self-concept, nervous anxiety level, and attitude toward testing.

Creighton-Lacroix, W., D. (2002). The self-regulation of test anxiety using metacognitive strategy instruction. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 62, 1718.	**No specific aim or findings for teacher role in supporting test-anxiety.** This study investigated the effects of strategy instruction on levels of test anxiety and maths test performance and developed a maths self-efficacy scale (Me and Math) to investigate differences between high and low test-anxious students in maths self-efficacy.
Datta, P., & Talukdar, J. (2017). The Impact of Support Services on Students' Test Anxiety and/or Their Ability to Submit Assignments: A Focus on Vision Impairment and Intellectual Disability. *International Journal of Inclusive Education*, *21*(2), 160–171.	**No specific aim, interview question or findings for teacher role in supporting test-anxiety.** The study focused on support services external to the school/college context. The aim of the study was to understand whether support services for students with vision impairment and those with intellectual disability influence levels of test anxiety and/or their ability to submit assignments.
Daugherty, A. (2006). *Physiological, cognitive and psycho-social effects of emotional refocusing: A summative and formative analysis.* The Claremont Graduate University.	**No specific aim or findings related to teacher role in supporting test-anxiety.** This study explored whether new emotional refocusing tools can be used to reduce student anxiety and improve academic achievement. The second purpose of the study was to examine the effectiveness of implementation of the TestEdge curriculum and the emotional re-focusing tools.
Demangeon, M. (1967). Problem of academic anxiety. [Problem of academic anxiety.]. *Bulletin de Psychologie*, *20*(10–15), 859–867.	**Not available in English language.** Abstract available written in English. Full-text written in French, unavailable in English. This study concluded that academic anxiety was influenced by the student's particular class, teacher's personality, teaching methods, students' geographic location, and proximity to vacations.
ERIC Clearinghouse on Reading and Communication Skills, U., IL. (1980). *Reading and Study Skills and Instruction: Preschool and*	**Full-text unavailable.**

Elementary: Abstracts of Doctoral Dissertations Published in 'Dissertation Abstracts International,' July through December 1980 (Vol. 41 Nos. 1 through 6). ERIC.	Series of abstracts including: the effects of need to achieve, test anxiety, reward, and instructions on reading vocabulary performance.
Flannery, M. E. (2008). Breathe…Breathe…Release. *NEA Today*, *26*(5), 42–43. Education Research Complete.	**Full-text unavailable.** Magazine article that presents teacher shared strategies for helping students manage stress and test-anxiety.
Ganz, B. C., & Ganz, M. N. (1988). Overcoming the Problem of Learned Helplessness. *College Teaching*, *36*(2), 82–84.	**Study context- university.** No introduction, method, results and discussion section. This article summarises research by Jeri Wine (1982) to discuss the concept of learned helplessness and strategies to reduce the debilitating effects of evaluation anxiety.
Gursoy, E., & Arman, T. (2016). Analyzing Foreign Language Test Anxiety among High School Students in an EFL Context (Note 1). *Journal of Education and Learning*, *5*(4), 190–200.	**No specific findings for teacher role in supporting test-anxiety.** This study aimed to measure the level of test-anxiety and its relationship with gender, grade level, and academic achievement in foreign language students. In addition, the causes of test anxiety were investigated according to students' own perceptions.
Huberty, T. J. (2009). Test and Performance Anxiety. *Principal Leadership*, *10*(1), 12–16.	**No specific discussion/conclusions about teacher role in supporting test-anxiety.** Article published in collaboration with the National Association of School Psychologists (NASP) in the Principal Leadership magazine. This article discusses test and performance anxiety and provides advice for schools and parents to help minimize negative impact.
Klingman, A., & Zeidner, M. (1990). A preliminary study of primary prevention of test anxiety among elementary school students: A phenomenological perspective. *Psychology in the Schools, 27*(3), 252–260. https://doi.org/10.1002/1520-6807%28199007%2927:3%3C252::AID-PITS2310270312%3E3.0.CO;2-T	**No specific aim or findings to teacher role in supporting test-anxiety.** This study assesses the face validity of a teacher-implemented program for test anxiety and lends support to the feasibility of the program for the improvement of students' test-coping skills and subsequent test performance.

Kono, Y. (1988). Effects of affiliative cues of teachers on children's task performance. *Japanese Journal of Educational Psychology*, *36*(2), 161–165. https://doi.org/10.5926/jjep1953.36.2_161	**Not available in English language.** Abstract available written in English. Full-text written in Japanese, unavailable in English. This study explored the effects of the affiliative cues of teachers and the test-anxiety of children on task performance.
Lawson, V. J. (1993). Mathematics anxiety, test anxiety, instructional methods, and achievement in a developmental mathematics class. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 53, 3479.	**Study context- university.** **Abstract only available.** This study examined relationships between mathematics achievement, mathematics anxiety, and test anxiety among subjects in two different instructional method groups. The participant group was black students in a university setting.
Lee, M. Y., Cho, S., Huy, V. N., & Lee, S. M. (2020). A multilevel analysis of change in emotional exhaustion during high school: Focusing on the individual and contextual factors. *Current Psychology: A Journal for Diverse Perspectives on Diverse Psychological Issues*, *Ahola, K., Honkonen, T., Isometsa, E., Kalimo, R., Nykyri, E., Aromaa, A., and Lonnqvist, J. (2005). The relationship between job-related burnout and depressive disorders-results from the Finnish health 2000 study. Journal of Affective Disorders, 88, 1, 55-62. http://dx.doi.org/10.1016/j.jad.2005.06.004*, No-Specified. https://doi.org/10.1007/s12144-020-00869-z	**Study aim and findings not specific to test-anxiety.** Focus of the study is on emotional exhaustion. This study used multilevel modelling analysis to examine the contextual factors as predictors, including interpersonal (i.e., teacher and parental autonomy support/academic pressure) and intrapersonal variables (i.e., depression, over-commitment, test anxiety), of emotional exhaustion at the individual and class levels.
Ley, J., Attard, C., Holmes, K., & Mathematics Education Research Group of Australasia. (2018). The Five Question Approach: Disrupting the Linear Approach to Mathematics Teaching. *Mathematics Education Research Group of Australasia.*	**No specific aim or findings to teacher role in supporting test-anxiety.** This study reports on the Five Question Approach to teaching mathematics which provides teachers with greater flexibility in content delivery, pacing and consolidation of content.
Lobman, C. (2014). 'I feel nervous. . . Very nervous' addressing test anxiety in inner city schools through play and performance. *Urban	**No specific aim or findings for teacher role in supporting test-anxiety.**

Education, 49(3), 329–359. https://doi.org/10.1177/0042085913478621	This study explores the value of the 'Performing Beyond Fear' program in relation to how to better support students in the build up to high-stake examinations.
Mare, M. (2021). Exploring the efficacy of mindfulness on regulating the emotional state of middle school students during the high-stakes testing era. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 82(2-A).	**No specific aim or findings for teacher role in supporting test-anxiety.** This study aimed to investigate the perceived efficacy of a mindfulness curriculum in reducing test-anxiety in students. They found that students had a persistent and overarching presence of test-anxiety, and that students had mindfulness disconnect which prevented them from benefiting from it.
Martin, J., & Norris, S. (1985). Teaching self-instruction to high school students. *International Journal for the Advancement of Counselling*, 8(4), 341–353.	**No specific aim or findings for teacher role in supporting test-anxiety.** This study aimed to demonstrate the effectiveness of an experimental instructional counselling program.
Mrsic, I., & Brajsa-Zganec, A. (2016). The relationship of teacher and parental support and monitoring, school achievement and student satisfaction. *Povezanost Potpore i Kontrole Roditelja i Nastavnika, Skolskog Uspjeha i Zadovoljstva Ucenika.*, 19(1), 23–36. https://doi.org/10.21465/2016-sp-191-02	**Not available in English language.** Abstract available written in English. Full-text written in Croatian, unavailable in English. This study highlights the importance of teacher-student and parent-student relationship, which ensures educational outcomes for students.
O'Neill, M., A. (1985). The role of language in the rational emotive education approach to test-anxiety reduction for sixth grade students. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 46, 1566.	**Study aim and findings not specific to teacher role in supporting test-anxiety.** **Abstract only available.** This study examined the roles of language ability, gender, and socioeconomic status in the Rational Emotive Education (REE) approach to test- anxiety reduction.
Oner, N. P. (1977). Impact of teacher behavior and teaching technique on learning by anxious children. *Stress and Anxiety: IV.*, 171–188.	**Full-text unavailable.**

	This study aimed to test the hypothesis that high-anxious students would learn and perform better under feedback and supportive conditions and that girls would perform better than boys under all conditions. They found that low-anxious students generally outperformed high-anxious students, and girls did better than boys under all treatment conditions.
Pascal, C. E. (1973). Individual differences and preference for instructional methods. *Canadian Journal of Behavioural Science / Revue Canadienne Des Sciences Du Comportement*, *5*(3), 272–279. https://doi.org/10.1037/h0082352	**Study aim and findings not specific to test-anxiety.** Focus of this study was the evaluation of effectiveness of differing teaching methods. Test-anxiety measures, a personality inventory, and a general information questionnaire were used as part of the evaluation.
Plass, J. A., & Hill, K. T. (1986). Children's achievement strategies and test performance: The role of time pressure, evaluation anxiety, and sex. *Developmental Psychology, 22*(1), 31–36. https://doi.org/10.1037/0012-1649.22.1.31	**No specific aim or findings to teacher role of supporting test-anxiety.** This study focuses on the relationship between time pressure, examination anxiety and sex. It highlights the need to take into account different children's motivational dispositions and test-taking strategies, as well as for teaching children appropriate strategies for coping with the demands of different tests.
Platsidou, M., & Agaliotis, I. (2017). Does empathy predict instructional assignment-related stress? A study in special and general education teachers. *International Journal of Disability, Development and Education, 64*(1), 57–75. https://doi.org/10.1080/1034912X.2016.1174191	**No specific aim or findings to teacher role in supporting test-anxiety.** Study specific to teacher stress. Aimed investigate the relationship between empathy levels and the instructional assignment-related stress factors of teachers.
Putwain, D. W., Woods, K. A., & Symes, W. (2010). Personal and situational predictors of test anxiety of students in post-compulsory education. *British Journal of Educational Psychology*, *80*(1), 137–160. https://doi.org/10.1348/000709909X466082	**No specific aim or findings for teacher role in supporting test-anxiety.** This study demonstrates how personal (mastery-avoidance goal, academic self-concept, and perceived test competence) and situational

	factors (parental pressure and teachers' performance-avoidance goals) are significant predictors of self-reported test anxiety.
Reed, J. (2007). Rethinking assessment. *Teaching Professor, 3*(5), 1-2.	**No specific discussion of teacher role in supporting test-anxiety.** This article discusses a project-based examinations approach used by teachers to define the students' performance on realistic tasks relevant to the course content.
Roueche, S. D., & Texas University (1992). Innovation Abstracts; Volume XIV, 1992. *Innovation Abstracts*, *14*(1–30). ERIC.	**Full-text unavailable.** Collection of one to two-page abstracts featuring an array of teaching and learning topics, including an abstract by Weinstein and Hagen on student test-anxiety- date unknown (full-text of article unavailable).
Sarason, S. B., Hill, K. T., & Zimbardo, P. G. (1964). A Longitudinal Study of the Relation of Test Anxiety to Performance on Intelligence and Achievement Tests. *Monographs of the Society for Research in Child Development, 29*(7), 1. https://doi.org/10.2307/1165688	**No specific aim or findings to teacher role in supporting test-anxiety.** This study provides support to the expectation that over time anxiety scores become increasingly and negatively related to indices of intellectual and academic performance.
Sasic, S. S., & Soric, I. (2011). Teacher-student quality of interaction: relationship with components of self-regulated learning, examination anxiety and school achievement. *Suvremena psihologija*, *14*(1), 35–55.	**Not available in English language.** Abstract available written in English. Full-text written in Croatian, unavailable in English. This study concluded that there is an indirect relationship between student-teacher interactions and self-regulated learning, examination anxiety and school achievement.
Smith, H. R., San Diego State Univ., CA., & California Teacher Corps Network, S. Diego. (1979). School Climate. *Networker*, *3*(1). ERIC.	**Full-text unavailable.** Collection of papers that discusses a variety of concerns including the roles of principals, teachers, and students in the educational environment, and test anxiety and creativity as outcomes of specific climates.
Stanton, H. E. (1974). The relationship between teachers' anxiety level and the test anxiety level of their students. *Psychology in the*	**No specific aim or findings to teacher role in supporting test-anxiety.**

Reference	Annotation
Schools, *11*(3), 360–363. https://doi.org/10.1002/1520-6807%28197407%2911:3%3C360::AID-PITS2310110323%3E3.0.CO;2-U	Study specific to teacher anxiety and the influence on teacher anxiety and student test-anxiety. Interestingly, findings suggest that teachers with higher levels of anxiety are more likely to have students in the class with lower levels of anxiety.
Sullivan, J. (2013). How I beat the odds. *Phi Delta Kappan*, *95*(2), 74-75.	**No specific discussion/conclusions about teacher role in supporting test-anxiety.** This is written from the perspective of a student who has a speech and language disability, he discusses a personal narrative outlining the steps that he took to manage his test-anxiety.
Szafran, R. F. (1981). Question-Pool Study Guides: Effects on Test Anxiety and Learning Retention. *Teaching Sociology*, *9*(1), 31–43.	**No specific aim to teacher role of supporting test-anxiety.** This study aimed to understand how the use of study guides had an influence on reported levels of test-anxiety in students.
Tobias, S. (1979). Anxiety research in educational psychology. *Journal of Educational Psychology*, *71*(5), 573–582. https://doi.org/10.1037/0022-0663.71.5.573	**No specific discussion/conclusions about teacher role in supporting test-anxiety.** No introduction, method, results and discussion section. This article discusses two major areas of anxiety research that are highly relevant to education: the adaptation of instructional materials so that interference by anxiety can be minimized, and the treatment of anxious individuals in test anxiety reduction programs.
Wenzel, K. & Reinhard, M. A. (2020). Does the end justify the means? Learning tests lead to more negative evaluations and to more stress experiences. *Learning and Motivation, 73*, 101706.	**No specific aim or findings to teacher role of supporting test-anxiety.** This study aimed to understand how participants evaluate learning situations with tests whilst considering dispositional stress or anxiety. This was examined using hypothetical learning situations and a laboratory study.
Wilkinson, C. M. (1990). Techniques for Overcoming Test Anxiety. *Elementary School Guidance and Counseling, 24*(3), 234–237.	**No specific discussion/conclusions about teacher role in supporting test-anxiety.** No introduction, method, results and discussion section.

This article presents a classroom guidance session for counsellors and teachers as a means of increasing awareness of, and reducing test-anxiety.

Appendix D   Data Extraction

Author(s), year, country of study *(unique identification number)*	Publication type	Study method/ Design	Sample (including age; gender)	Context	Aim	Summary of findings relevant to teacher role/strategies/support for test-anxiety
Bas (2016), Turkey *(1)*	Peer-reviewed journal	Correlation investigation model/ quantitative	108 teachers (aged 24-56; 47 male, 61 female), 526 students (aged 13-18; 240 male, 286 female)	High school	Examine the mediating effect of test-anxiety on the relationship between teaching-learning conceptions of teachers and the levels of academic achievement in students.	• There was a difference between the traditional and constructivist teaching-learning conceptions: traditional teaching-learning conceptions increased test-anxiety whereas constructivist teaching-learning conceptions decreased test-anxiety. • Students have a lower level of test-anxiety in constructivist classrooms compared to traditional classrooms.
Chamberlain, Daly & Spalding (2011), UK, *(2)*	Peer-reviewed journal	Focus groups/ qualitative	19 participants (aged 16-19; 4 male, 15 female)	Sixth form college	Explore students' experiences of test-anxiety and their opinions about the usefulness of strategies that might help minimise test-anxiety.	• Test-anxiety could be triggered by attitudes and actions of teachers. • Teachers' use of fear appeals is unhelpful and unnecessary.

Hascoët, Pansu, Bouffard & Leroy (2018), *country of study not reported, (3)*	Peer-reviewed journal	Survey/ quantitative	524 participants (aged 9-10; 272 male, 252 female)	Elementary school	Examine the effects of students' perception of teacher conditional support on perception of school competence. Testing the mediating effect of sensitivity to errors and test-anxiety.	• If students' perception of teacher conditional support is increased, then student test-anxiety and sensitivity to errors is increased. Thus, decreasing student perception of self-competence. • Teacher conditional support can have harmful consequences for students.
Mealey & Host (1992), USA, *(4)*	Article reporting scholarship on teaching methods	N/A	N/A	College	Summarise the typical causes of test-anxiety and discuss three ways that teachers can help test-anxious students: by teaching effective learning strategies, using cooperative learning, and providing a positive classroom atmosphere.	• Teachers have a role in helping students develop effective learning strategies. • Teachers who provide a positive atmosphere in the classroom and remove the threatening environment can make it possible for anxious students to succeed.
Putwain & Symes (2011), UK, *(5)*	Peer-reviewed journal	Longitudinal survey/ quantitative	132 participants (aged year 10- mean 14:7 to year 11- mean 15:5; 66 male, 66 female)	Secondary school	Examine whether teachers' use of fear appeals in the classroom has an effect on student motivation, test-anxiety and fear of failure.	• Positive correlations were reported between test-anxiety and teachers' use of fear appeals. This tended to be stronger perceived threat and weaker for test-irrelevant thinking in year 11 students.

						• Perceived threat of fear appeals in year 10 increased the worry and tension components of test-anxiety. • Teachers' use of fear appeals were only an antecedent to student test-anxiety when they are perceived as threatening.
Raufelder, Regner & Wood (2018), Germany, *(6)*	Peer-reviewed journal	Survey/ quantitative	845 participants (aged 13-17; 380 male, 465 female)	Secondary school	Examine whether students' perception of 'teachers as positive motivators' (TPM) can moderate the association between test-anxiety and learned helplessness.	• Both components of test-anxiety (worry and emotionality) were positively associated with TPM. • TPM does not function as a buffer to decrease feelings of test-anxiety and helplessness in school. • Motivational support from teachers is not enough to protect test-anxious students from the detrimental emotional states and related negative outcomes in competitive educational settings.
Scholze & Sapp (2006), USA, *(7)*	Discussion paper	N/A	N/A	Across multiple primary and secondary school	Discussion about understanding test-anxiety and the multicultural learner.	• If test-anxiety exists in the classroom, the classroom teacher can provide treatment

			Survey: 897 third year students (aged 14-15), 748 sixth year students (aged 17-18). Group interviews: 47x6 (282) third year students, 53x6 (318) sixth year students.			environmen ts.		in conjunction with the school counsellor.

				environmen ts.		• in conjunction with the school counsellor. • School counsellors can provide relaxation training to those students who have test anxiety and teachers can provide maintenance of the strategy in the classroom setting. • A teacher sensitive to multicultural test-anxious students can help these learners by discussing irrational thoughts with students and helping them to challenge and confront these thoughts.
Smyth & Banks (2012), Republic of Ireland, *(8)*	Peer-reviewed journal	Longitudinal survey and interviews/ mixed methods	Survey: 897 third year students (aged 14-15), 748 sixth year students (aged 17-18). Group interviews: 47x6 (282) third year students, 53x6 (318) sixth year students.	Secondary school	Examine student experiences of teaching and learning where examinations have high-stakes.	• Stress for high-stake examinations is partly driven by teachers' constant reminders of the impeding examination and the need to study in preparation. • Clear explanation, teachers' own enthusiasm for the subject, quality of teacher-student interaction were identified as a dimension of good teaching.

			Gender not reported.			• In both examination years, students experienced an escalation of demands and reported feelings of stress, reflecting the amount of work to be done and the high-stake nature of the examinations.
Song, Bong, Lee & Kim (2015), Korea, *(9)*	Peer-reviewed journal	Longitudinal survey (3 years)/ quantitative	6089 participants (aged 13-15:11; 3156 male, 2933 female)	Middle school	Examine the importance of perceived social support (parents, peers, teachers), understand the consequences associated with different types of perceived social support, and understand the mediation by achievement goals in the relationship between perceived social support and academic outcomes (achievement and test-anxiety).	• Parental emotional support predicts test-anxiety more strongly than that of teachers. • Teacher academic support did not relate to test-anxiety but had a positive relationship with academic achievement in year 2. • Teacher emotional support related positively to test-anxiety in year 3. • Teacher achievement pressure demonstrated a positive relationship with test anxiety across year 2 and year 3.
Triplett & Barksdale (2005), USA,	Peer-reviewed journal	Drawing and writing/ qualitative	225 participants (3rd grade aged 8-9 to 6th grade	Elementary school	Explore student perceptions of high-stake testing.	• Teacher role was a constructed theme in the student drawings and written descriptions.

(10)			aged 11-12; gender not reported)		• Teachers were described as 'monitor', 'coach', comforter' and 'uninterested observer' by students.
Wisdom (2018), USA, *(11)*	Dissertation	Interview and focus group/qualitative case study	12 participants (English and maths teachers)	High school	The aim was to investigate high school English and mathematics teachers' current knowledge, experiences, and perceptions about students' preparations and responses to high-stake testing and to explore teachers' perceptions about teaching strategies they needed to reduce student test anxiety. • Teachers believed that when they thoroughly prepared students for high-stakes tests, students exhibited greater test confidence, reduced stress, and minimum test anxiety. • Teachers want professional development workshops to improve their knowledge about test anxiety and to improve their management of test anxiety reduction and intervention.
Yildirim, Genctanirim, Yalcin, & Baydan (2008), Turkey, *(12)*	Peer-reviewed journal	Survey/ quantitative	505 participants (9th grade aged 14-15 to 11th grade aged 17-18; 44% male, 56% female)	High school	Understand the relationship between test-anxiety and perfectionism, academic achievement, and perceived social support (family, friends, teachers). • Support from teachers had a significant negative relationship with test-anxiety. • Students' levels of test-anxiety increased as their levels of perfectionism increased and their perceived support from friends and teachers decreased.

Appendix E   Quality Assessment Tables

Table E1

Assessment of Methodological Quality (WoE A) and Methodological Appropriateness (WoE B) for Qualitative Studies (adapted from Bond et al., 2013).

Criterion	Author(s) (year) *(unique identification number)*			
	Chamberlain et al. (2011) *(2)*	Smyth & Banks (2012) *(8)*	Triplett & Barksdale (2005) *(10)*	Wisdom (2018) *(11)*
Appropriateness of research design *E.g. Does the rationale match the research aims?*	Yes	Yes	Yes	Yes
Clear sampling rationale *E.g. Is there a clear description? Is the sampling method justified?*	Yes	Yes	No *Unclear how schools were recruited.*	Yes
Well executed data collection and execution *E.g. Is it clear who/what/how the data were collected? Is there a recognition of how the data collection methods will effect data quality?*	Yes	Yes	Yes	Yes
Analysis close to the data	Yes	Yes	Yes	Yes

E.g. Does the analysis of data clearly represent the themes and data presented?				
Emergent theory related to the problem *E.g. Can the themes/categories reported be clearly linked/mapped onto the model/framework?*	Yes	Yes	Yes	Yes
Evidence of explicit reflexivity *E.g. Are the researcher's philosophical assumptions reported and the limitations outlined?*	No *No statement of reflexivity.*	Not sure. *Limitations to philosophical approach outlined, authors assumptions not reported.*	No *No statement of reflexivity.*	Yes
Comprehensiveness of documentation *E.g. Are the interview schedules/transcripts/thematic maps reported?*	No *Interview schedules and transcripts not available.*	No *Interview schedules and transcripts not available.*	Yes *Drawings are included.*	Yes *Interview schedule included.*
Negative case analysis *E.g. Are any contradictions/outliers reported in the data? Is there a diversity of perspectives?*	Yes *E.g. discussion of students' contrasting perspectives about fear appeals. Student perspective only.*	No *Interviews were also carried out with key staff, however this information has been omitted.*	No *No contradictions in findings identified. Student perspectives only.*	Not sure *Not explicit in findings and discussion, small case study approach may lack diverse perspectives.*
Clarity and coherence of the reporting	Yes	Yes	Yes	Yes

E.g. Is there a clear structure? Are the key points highlighted? Are the findings linked to the study aims?				
Evidence of researcher-participant negotiations *E.g. Does the researcher clarify terms and meanings with participants? Are participants empowered?*	No *Not reported.*	No *Not reported.*	No *Not reported. Teachers from participating schools carried out data collection and posted to researcher.*	Yes *There is a section detailing this.*
Transferable conclusions *E.g. Are the findings contextualised? Are the limitations of the research identified?*	Yes	Yes	Not sure *Conclusions are transferred across states.* *No discussion of limitations of research.*	Yes
Evidence of attention to ethical issues *E.g. Are the findings reported sensitively? Is there a minimisation of harm? Is there an opportunity for participant feedback?*	Yes	Yes *E.g. use of pseudonyms.*	Yes	Yes
Total 'yes' responses:	9/12	8/12	7/12	11/12

Table E2

Assessment of Methodological Quality (WoE A) and Methodological Appropriateness (WoE B) for Quantitative Studies (adapted from Bond et al., 2013).

Criterion	Author(s) (year) *(unique identification number)*						
	Bas (2016) *(1)*	Hascoët et al. (2018) *(3)*	Putwain & Symes (2011) *(5)*	Raufelder et al. (2018) *(6)*	Smyth & Banks (2012) *(8)*	Song et al. (2015) *(9)*	Yildirim et al. (2008) *(12)*
Use of a randomised group design	No	No	No	No	No	No	No
Focus on a specific, well-defined disorder or problem	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Comparison with treatment-as-usual, placebo, or less preferably, standard control	No *No comparison group.*	No *No comparison group.*	No *No comparison group.*	No *No comparison group.*	No *No comparison group.*	No *No comparison group.*	No *No comparison group.*
Use of manuals/ procedures for data collection and/or monitoring/fidelity checks/supervision of intervention	Yes *Clear procedure of data collection reported.*	Yes *Details of procedure reported.*	Yes *Details of procedure reported.*	Yes *Procedure clearly detailed.*	Yes *Details of procedure reported.*	No *Procedure for carrying out survey not detailed.*	Yes *Data collection procedure detailed.*

Sample large enough to detect effect (from Cohen, 1992)	No *Effect size not reported.*	Not sure *Authors report "Despite the effect size is small, this result is consistent with those reported in other studies" (p.8)*	No *Effect size not reported.*	No *Effect size not reported.*	No *Effect size not reported.*	No *Effect size not reported.*	No *Effect size not reported.*
Use of outcome measure(s) that have demonstrable reliability and validity	Yes *Measures and content appropriate. Cronbach's alpha reported (internal consistency).*	Yes *Appropriate content validity. Internal consistency reported.*	Yes *Reliability and validity of all measures used is reported.*	Yes *Measures appropriate. Cronbach's alpha reported (internal consistency).*	N/A	Yes *Reliability coefficients reported. Appropriate content validity for the measure used.*	Yes *Appropriate content validity. Cronbach's alpha reported for all measures.*
Total 'yes' responses:	3/6	3/6	3/6	3/6	2/6	2/6	3/6

Table E3

Assessment of Appropriateness of Study Focus (WoE C) for All Studies (adapted from Bond et al., 2013).

Author(s), year *(unique identification number)*	Appropriateness of study focus criteria		Total 'yes' responses
	Test-anxiety primary focus of study	Refers to teacher role/support of test-anxiety	
Bas (2016) *(1)*	No *Test-anxiety as a mediator.*	Yes	1/2
Chamberlain, Daly & Spalding (2011) *(2)*	Yes	Yes	2/2
Hascoët, Pansu, Bouffard & Leroy (2018) *(3)*	No *Test-anxiety as a mediator.*	Yes	1/2
Mealey & Host (1992) *(4)*	Yes	Yes	2/2
Putwain & Symes (2011) *(5)*	Yes	Yes	2/2
Raufelder, Regner & Wood (2018) *(6)*	Yes	Yes	2/2
Scholze & Sapp (2006) *(7)*	Yes	Yes	2/2
Smyth & Banks (2012) *(8)*	Yes	Yes	2/2
Song, Bong, Lee & Kim (2015)	No	Yes	1/2

(9)	*Primary focus of the study on social support and achievement goals. Test-anxiety as a mediator.*		
Triplett & Barksdale (2005) *(10)*	No *Primary focus of the study was to explore student perceptions of high-stake testing.*	Yes	1/2
Wisdom (2018) *(11)*	Yes	Yes	2/2
Yildirim, Genctanirim, Yalcin, & Baydan (2008) *(12)*	Yes	Yes	2/2

Table E4

Quality Assessment of Secondary Research.

Criterion	Author(s) (year) *(unique identification number)*	
	Mealey & Host (1992) *(4)*	**Scholze & Sapp (2006)** *(7)*
Comprehensiveness of documentation *E.g. Is there enough evidence reported? Is the argument balanced?*	No *The argument is not balanced and focuses on role teachers have in alleviating test-anxiety and does not discuss the counter balance of how teachers may increase test-anxiety.*	No *More detail of the evidence reported is needed.*
Clarity and coherence of the reporting *E.g. Is there a clear structure? Are the key points highlighted? Are the key findings from the studies reported?*	Yes	No *E.g. Discussion of ineffective teaching approaches for test-anxiety reports evidence that does not fit with subheading.*
Transferability *E.g. Are the findings/discussions contextualised?*	No	No *Not explicitly discussed but the study does seem to focus on multicultural learners who are African American.*
Transparency *E.g. Is the literature used in a transparent and trustworthy way?*	Yes	Yes *Clear referencing and discussion of evidence.*
Credibility and dependability *E.g. Consider the validity and reliability of the evidence?*	No *Authors report anecdotal evidence gathered in their own classroom- this has not been critically analysed.*	No *There is a limited number of studies discussed e.g. discussion of teaching approaches relies heavily on one reference (Sapp, 1999).*

Does the paper report triangulated evidence? (more than one reference to support a point)		
Transferable conclusions of paper as a whole *E.g. Do the conclusions follow the argument?* *Are the limitations of the research identified?*	Yes	Not sure *Conclusions do follow argument of paper but no limitations discussed.*
Total 'yes' responses	3/6	1/6

Appendix F   Information Sheets

UNIVERSITY OF
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INFORMATION SHEET FOR TEACHERS

EXPLORATION OF HOW TO SUPPORT STUDENTS WITH TEST-ANXIETY DURING AND FOLLOWING COVID-19.

You are invited to take part in the above research project. Before you decide to do so, it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Who am I?

My name is Rosie Pengelly and I am a trainee educational psychologist at Exeter University at the Graduate School of Education, currently studying on the Doctorate of Educational Psychology course.

What am I doing?

As part of my course I am undertaking a two-phase thesis. Firstly, the research project aims to understand what is known about supporting students with test-anxiety. Secondly, the project aims to explore teacher experiences of supporting student test-anxiety during and following the Covid-19 pandemic, and an exploration of how educational psychologists can support schools with alleviating test-anxiety during and following the Covid-19 pandemic.

Why am I doing this research?

Educational psychologists are well placed to increase awareness of positive mental health in schools. The mental health of children and young people has become a key topic of discussion in recent years and anxiety is one of the most common mental health difficulties for children and young people. It seems that test-anxiety in particular effects 15-22% of students and is often connected to negative outcomes in schools. In addition to this, little is known about teacher experiences of supporting students with test-anxiety in the current context of a global pandemic, e.g. Covid-19. Therefore, my research will explore proactive and preventative work within schools to support test-anxiety and promote positive mental health in the current context.

Why have you been approached?

I will be speaking to teachers with at least 3 years experience across secondary schools in England. You have been asked because you teach year 10 and year 11 students in preparation for their GCSEs.

I will also be speaking to educational psychologists in England.

How will it work?

The first phase of my research will be a systematic review of the test-anxiety literature to understand what we already know about supporting students with test-anxiety.

The second phase of the research will involve individual interviews with teachers and educational psychologists to explore their views about test-anxiety. The interviews will be carried out via Microsoft Teams. The interviews will be audio recorded and transcribed, all data will be kept securely in accordance with GDPR. The interviews will take 30-45 minutes and can be arranged at a time that is most convenient for you.

Once all online interviews have been completed, I will draw together the key themes from the teacher and educational psychologist interviews respectively. If you wish to see the transcript of your interview, I can send this to you.

How will my information be kept confidential?

The information that you provide during the research will remain anonymous in the writing up of the research. No one reading the research project will be able to identify you or any other participant from the final written product. All data collected will be treated with the strictest confidence and will not be disclosed to any third parties. Your data will be kept safely and securely in accordance with the Data Protection Act and may be kept for up to five years and then safely destroyed.

What will you gain from taking part?

Taking part in this research will enable you to reflect on your knowledge and experiences of supporting young people with test-anxiety in an interview with a trainee educational psychologist. It is hoped that your participation in this research will contribute to our understanding of the implications of the Covid-19 pandemic for children and young people.

Following completion of the research you will be sent a summary of 'top tips' about supporting students with test-anxiety, informed by the interviews with teachers and EPs.

What will happen to the findings of the study?

Once all data from the research has been collected, I will write up the findings in the form of a thesis. Once you have finished your part of the research you will be debriefed and given the opportunity to ask any questions about the research process. If you would like, I will send you an anonymised summary of the findings of the research.

How do you give permission to take part?

Everyone who takes part in this research will give their full written consent to participate. Participants that give consent will take part in phase two of the study. Please only give this consent if you want to take part and you feel you have been provided with enough information about the research. Once you have given permission to participate you are free to withdraw from the study, without having to give any reason, at any time up until the point of data analysis. All data will be fully anonymised in this study.

If you have any further questions for my supervisors or I at any time during the research process, please don't hesitate to contact us using the details below.

Rosie Pengelly: rp542@exeter.ac.uk
Shirley Larkin: S.Larkin@exeter.ac.uk
Caroline Gallagher: C.Gallagher@exeter.ac.uk

Graduate School of Education
Exeter University
St Lukes Campus
Heavitree Road
EX1 2LU

Thank you for your interest in this project.

UNIVERSITY OF
EXETER

INFORMATION SHEET FOR EDUCATIONAL PSYCHOLOGISTS

EXPLORATION OF HOW TO SUPPORT STUDENTS WITH TEST-ANXIETY DURING AND FOLLOWING COVID-19.

You are invited to take part in the above research project. Before you decide to do so, it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Who am I?

My name is Rosie Pengelly and I am a trainee educational psychologist at Exeter University at the Graduate School of Education, currently studying on the Doctorate of Educational Psychology course.

What am I doing?

As part of my course I am undertaking a two-phase thesis. Firstly, the research project aims to understand what is known about supporting students with test-anxiety. Secondly, the project aims to explore teacher experiences of supporting student test-anxiety during and following the Covid-19 pandemic, and an exploration of how educational psychologists can support schools with alleviating test-anxiety during and following the Covid-19 pandemic.

Why am I doing this research?

Educational psychologists are well placed to increase awareness of positive mental health in schools. The mental health of children and young people has become a key topic of discussion in recent years and anxiety is one of the most common mental health difficulties for children and young people. It seems that test-anxiety in particular effects 15-22% of students and is often connected to negative outcomes in schools. In addition to this, little is known about teacher experiences of supporting students with test-anxiety in the current context of a global pandemic, e.g. Covid-19. Therefore, my

research will explore proactive and preventative work within schools to support test-anxiety and promote positive mental health in the current context.

Why have you been approached?

I will be speaking to teachers and educational psychologists in England. You have been asked because you are an educational psychologist working in England.

How will it work?

The first phase of my research will be a systematic review of the test-anxiety literature to understand what we already know about supporting students with test-anxiety.

The second phase of the research will involve individual interviews with teachers and educational psychologists to explore their views about test-anxiety. The interviews will be carried out via an online platform, such as Microsoft Teams. The interviews will be audio recorded and transcribed, all data will be kept securely in accordance with GDPR. The interviews will take 30-45 minutes and can be arranged at a time that is most convenient for you.

Once all online interviews have been completed, I will draw together the key themes from the teacher and educational psychologist interviews respectively. If you wish to see the transcript of your interview, I can send this to you.

How will my information be kept confidential?

The information that you provide during the research will remain anonymous in the writing up of the research. No one reading the research project will be able to identify you or any other participant from the final written product. All data collected will be treated with the strictest confidence and will not be disclosed to any third parties. Your data will be kept safely and securely in accordance with the Data Protection Act and may be kept for up to five years and then safely destroyed.

What will you gain from taking part?

Taking part in this research will enable you to explore and reflect on your knowledge and experiences of how educational psychologists can support schools to alleviate test-anxiety. It is hoped that your participation in this research will contribute to our of understanding the implications of the Covid-19 pandemic for children and young people.

What will happen to the findings of the study?

Once all data from the research has been collected, I will write up the findings in the form of a thesis. Once you have finished your part of the research you will be debriefed and given the opportunity to ask any questions about the research process. If you would like, I will send you an anonymised summary of the findings of the research.

How do you give permission to take part?

Everyone who takes part in this research will give their full written consent to participate. Participants that give consent will take part in phase two of the study. Please only give this consent if you want to take part and you feel you have been provided with enough information about the research. Once you have given permission to participate you are free to withdraw from the study, without having to give any reason, at any time up until the point of data analysis. All data will be fully anonymised in this study.

If you have any further questions for my supervisors or I at any time during the research process, please don't hesitate to contact us using the details below.

Rosie Pengelly: rp542@exeter.ac.uk

Shirley Larkin: S.Larkin@exeter.ac.uk

Caroline Gallagher: C.Gallagher@exeter.ac.uk

Graduate School of Education

Exeter University

St Lukes Campus

Heavitree Road

EX1 2LU

Thank you for your interest in this project.

Appendix G   Consent Form

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CONSENT FORM

I have been given the opportunity to read the information sheet given to me, and I understand this information.

**Please complete and return this form as soon as possible.

I, _____, give/do not give (please delete as appropriate) my consent to take part in this research project.

I understand that:

- All information I give will be treated as confidential.

- The researcher will make every effort to preserve my anonymity.

- Any information which I provide to the researcher will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations.

- It is not compulsory for me to participate in this research project and, if I choose to participate, I may withdraw from the research at any time without giving a reason, up until the data is analysed by the researcher.

_____   _____

(Signature)   (Date)

_____

(Printed name)

Appendix H   Pilot Topic Guides

PILOT: EP INTERVIEWS

RQ3: How do educational psychologists feel they can support schools with alleviating student test-anxiety during and following the Covid-19 pandemic?

SET UP/BRIEF:

- o   Small talk and comfortable conversation before beginning.
- o   Ask permission to record.
- o   Ensure sat in position where they can be heard.
- o   Explain purposes of interview: understanding how EPs can support schools with alleviating test-anxiety during and following a pandemic.
- o   Discuss confidentiality and anonymity.
- o   The interview will be 30-45 mins long.
- o   Go through consent and the right to withdraw at any time.
- o   Any questions? Happy to continue?

How long have you been an EP?

Where in the UK do you work?

DEFINITION OF TEST-ANXIETY:

- •   Normalise test-anxiety- 15-22% of students experience test-anxiety in the build up to high-stakes examinations (von der Embse, et al., 2018).

What is your understanding of test-anxiety?

The literature says…

- •   Test-anxiety is multi-dimensional, e.g. it is made up of the components worry and emotionality (Liebert & Morris, 1967; Pourtaleb, Mirnasab & Hadidi,2018; Putwain, 2007a; Ringeisen & Raufelder, 2015; von der Embse, et al., 2018).
  - o   Worry refers to the cognitive aspect of anxiety such as negative thoughts about performance, failure and the consequences.
  - o   Emotionality refers to the somatic symptoms such as feelings of tension and subjective experiences.

CURRENT CONTEXT:

In your experience, how has Covid-19 influenced mental health and wellbeing in schools? What is different? What is the same?

CONVERSATION STARTERS:

What have been your experiences of discussing examinations and examination anxiety with teachers since schools have returned?

In your view, how will Covid-19 have influenced student test-anxiety? What is different? Why?

Is there anything you think EPs can do to support teachers to support students in the build up to examinations next year?

What will this look like? What will you do?

How might this work be different to pre-Covid?

PROMPTS:

What else?

Tell me more.

Can you give me an example?

How do you know?

What would it look like?

How does that make you feel?

SHIFTING TO A NEW TOPIC:

We've talked about … for a while now. What else is important to you about supporting students with test-anxiety?

Can you think of some other things that you have experienced supporting students with test-anxiety during/after the pandemic?

Can you clarify what you mean by…?

CLOSING QUESTION:

Can you think of anything else you would like to say about supporting students with test-anxiety during/after the pandemic?

Is there anything else you would like to add to what you have already said?

DEBRIEF:

- o Thank for taking part.
- o Reiterate confidentiality.
- o What happens next?
- o If you have any questions please ask me now or ask contact me afterwards by phone/email.

PILOT: TEACHER INTERVIEWS

RQ2: What are teacher experiences of supporting students with test-anxiety during and following the Covid-19 pandemic?

SET UP/BRIEF:

- o Small talk and comfortable conversation before beginning.
- o Ask permission to record.

- o Ensure sat in position where they can be heard.
- o Explain purposes of interview: understanding teacher experiences of supporting students with test-anxiety during and following a pandemic.
- o Discuss confidentiality and anonymity.
- o The interview will be 30-45 mins long.
- o Go through consent and the right to withdraw at any time.
- o Any questions? Happy to continue?

What subject do you teach?

Which year groups do you work with?

How long have you been teaching?

DEFINITION OF TEST-ANXIETY:

- Normalise test-anxiety- 15-22% of students experience test-anxiety in the build up to high-stakes examinations (von der Embse et al., 2018).

What is your understanding of test-anxiety?

The literature says…

- Test-anxiety is multi-dimensional, e.g. it is made up of the components worry and emotionality (Liebert & Morris, 1967; Pourtaleb et al., 2018; Putwain, 2007b; Ringeisen & Raufelder, 2015; von der Embse et al., 2018).
  - o Worry refers to the cognitive aspect of anxiety such as negative thoughts about performance, failure and the consequences.
  - o Emotionality refers to the somatic symptoms such as feelings of tension and subjective experiences.

What do you think are the outcomes of test-anxiety?

The literature says…

- Test-anxiety might cause (Friedman & Bendas-Jacob, 1997):
  - o Reduction in self-image and self-efficacy, particularly in the eyes of others.
  - o The obstruction of cognitive processes.
  - o Can cause physical and mental discomfort.

CURRENT CONTEXT:

What is different? E.g. no examinations this year, results were supposed to be standardised, this changed to teacher predictions.

No examinations took place in summer 2020 due to the coronavirus (COVID-19) outbreak. To enable students to receive qualifications, it was announced that students who were due to sit A level, AS level or GCSE examinations this summer would receive a calculated grade. For each student, schools and colleges have provided a centre assessment grade for each subject; this is the grade their school or college believes they would be most likely to have achieved had examinations gone ahead, taking into account a range of evidence including, for example, non-examination assessment and mock results. This grade was intended to be put through a process of

standardisation, using a model developed with Ofqual, to arrive at the final calculated grade.

On Monday 17 August, Ofqual confirmed that there no longer would be a standardisation process for AS and A levels or GCSEs and instead all students will be awarded the centre assessment grade submitted by their school or college, unless it is lower than their calculated grade in which case the calculated grade will stand. Unless there is evidence that a processing error has been made, these grades will be final.

https://www.gov.uk/government/publications/coronavirus-covid-19-cancellation-of-gcses-as-and-a-levels-in-2020/coronavirus-covid-19-cancellation-of-gcses-as-and-a-levels-in-2020 Retrieved 17/09/2020.

How has Covid-19 influenced examinations and examination-anxiety?

CONVERSATION STARTERS:

Prior to examinations being cancelled in lockdown, what was your experience of student test-anxiety? How did you support students, if at all?

What is it like at the moment in school supporting students with test-anxiety following Covid-19?

How are things at school now with regards to supporting students with examinations, compared to before Covid-19?

How do you think Covid-19 will have had an effect on examination-anxiety? What about for students who taking their examinations next year?

Are there differences in the way you will approach test-anxiety with students now? What is different? What is the same?

How do you think it will be next year for students due to take examinations?

How could support for test-anxiety be improved in your classroom? What would help?

PROMPTS:

What else?

Tell me more.

Can you give me an example?

How do you know?

What would it look like?

How does that make you feel?

SHIFTING TO A NEW TOPIC:

We've talked about … for a while now. What else is important to you about supporting students with test-anxiety?

Can you think of some other things that you have experienced supporting students with test-anxiety during/after the pandemic?

Can you clarify what you mean by…?

CLOSING QUESTION:

Can you think of anything else you would like to say about supporting students with test-anxiety during/after the pandemic?

Is there anything else you would like to add to what you have already said?

DEBRIEF:

- o Thank for taking part.
- o Reiterate confidentiality.
- o What happens next?
- o If you have any questions please ask me now or ask contact me afterwards by phone/email.

Appendix I   Final Topic Guides

FINAL: EP INTERVIEWS

RQ3: How do educational psychologists feel they can support schools with alleviating student test-anxiety following a pandemic?

SET UP/BRIEF:

- o Small talk and comfortable conversation before beginning.
- o Ask permission to record.
- o Ensure sat in position where they can be heard.
- o Explain purposes of interview: understanding how EPs can support schools with alleviating test-anxiety during and following a pandemic.
- o Discuss confidentiality and anonymity.
  - ▪ *Discuss possible sensitive nature of discussions, such as personal experience of Covid-19.*
  - ▪ *Any information they report to the researcher that is a cause for concern in terms of the participants' safety or the safety of others then confidentiality would be broken.*
- o The interview will be 30-45 mins long.
- o Go through consent and the right to withdraw at any time.
- o Any questions? Happy to continue?

**START RECORDING

Demographics:

Where in the UK do you work? What is the current Covid level alert?

How long have you been an EP?

DEFINITION OF TEST-ANXIETY:

- • Normalise test-anxiety- 15-22% of students experience test-anxiety in the build up to high-stakes examinations (von der Embse, et al., 2018).

What is your understanding of test-anxiety?

The literature says…

- • Test-anxiety is multi-dimensional, e.g. it is made up of the components worry and emotionality (Liebert & Morris, 1967; Pourtaleb, Mirnasab & Hadidi,2018; Putwain, 2007a; Ringeisen & Raufelder, 2015; von der Embse, et al., 2018).
  - o Worry refers to the cognitive aspect of anxiety such as negative thoughts about performance, failure and the consequences.
  - o Emotionality refers to the somatic symptoms such as feelings of tension and subjective experiences.

CONVERSATION STARTERS:

Prior to Covid-19, what were your experiences of supporting schools with test-anxiety?

What did the work look like? What did you do?

What approaches work well? Why? How? Can you give an example?

What have been your experiences of discussing examinations and examination anxiety with teachers since schools have returned?

What have schools asked for? What did you do?

Considering what happened this year, with examinations being cancelled, in your view, how will Covid-19 have influenced how student test-anxiety in schools? What is different? Why?

Is there anything you think EPs can do to support schools with test-anxiety in the build up to examinations next year?

What will this look like? What will you do? What approaches might you use?

How might this work be different to pre-Covid?

PROMPTS:

What else?

Tell me more.

Can you give me an example?

How do you know?

What would it look like?

How does that make you feel?

SHIFTING TO A NEW TOPIC:

We've talked about … for a while now. What else is important to you about supporting students with test-anxiety?

Can you think of some other things that you have experienced supporting students with test-anxiety during/after the pandemic?

Can you clarify what you mean by…?

CLOSING QUESTION:

Can you think of anything else you would like to say about supporting students with test-anxiety during/after the pandemic?

Is there anything else you would like to add to what you have already said?

DEBRIEF:

- o Thank for taking part.
- o Reiterate confidentiality.
- o What happens next?

- o   If you have any questions please ask me now or ask contact me afterwards by phone/email.

_____

FINAL: TEACHER INTERVIEWS

RQ2: What are teacher experiences of supporting students with test-anxiety during and following a pandemic?

SET UP/BRIEF:

- o   Small talk and comfortable conversation before beginning.
- o   Ask permission to record.
- o   Ensure sat in position where they can be heard.
- o   Explain purposes of interview: understanding teacher experiences of supporting students with test-anxiety during and following a pandemic.
- o   Discuss confidentiality and anonymity.
  - ▪   *Discuss possible sensitive nature of discussions, such as personal experience of Covid-19.*
  - ▪   *Any information they report to the researcher that is a cause for concern in terms of the participants' safety or the safety of others then confidentiality would be broken.*
- o   The interview will be 30-45 mins long.
- o   Go through consent and the right to withdraw at any time.
- o   Any questions? Happy to continue?

**START RECORDING

Demographics:

In what context do you teach? E.g. secondary/upper school, and geographic location.

How long have you been teaching?

What subject/s do you teach?

Which year groups do you work with?

What is the current Covid-level alert in your area?

DEFINITION OF TEST-ANXIETY:

- •   Normalise test-anxiety- 15-22% of students experience test-anxiety in the build up to high-stakes examinations (von der Embse et al., 2018).

What is your understanding of test-anxiety?

The literature says…

- •   Test-anxiety is multi-dimensional, e.g. it is made up of the components worry and emotionality (Liebert & Morris, 1967; Pourtaleb et al., 2018; Putwain, 2007b; Ringeisen & Raufelder, 2015; von der Embse et al., 2018).
  - o   Worry refers to the cognitive aspect of anxiety such as negative thoughts about performance, failure and the consequences.

- Emotionality refers to the somatic symptoms such as feelings of tension and subjective experiences.

CURRENT CONTEXT:

Why have examinations this year been different? E.g. no examinations this year, results were supposed to be standardised, this changed to teacher predictions.

Prompt:

> *No examinations took place in summer 2020 due to the coronavirus (COVID-19) outbreak. To enable students to receive qualifications, it was announced that students who were due to sit A level, AS level or GCSE examinations this summer would receive a calculated grade. For each student, schools and colleges have provided a centre assessment grade for each subject; this is the grade their school or college believes they would be most likely to have achieved had examinations gone ahead, taking into account a range of evidence including, for example, non-examination assessment and mock results. This grade was intended to be put through a process of standardisation, using a model developed with Ofqual, to arrive at the final calculated grade.*
>
> *On Monday 17 August, Ofqual confirmed that there no longer would be a standardisation process for AS and A levels or GCSEs and instead all students will be awarded the centre assessment grade submitted by their school or college, unless it is lower than their calculated grade in which case the calculated grade will stand. Unless there is evidence that a processing error has been made, these grades will be final.*

https://www.gov.uk/government/publications/coronavirus-covid-19-cancellation-of-gcses-as-and-a-levels-in-2020/coronavirus-covid-19-cancellation-of-gcses-as-and-a-levels-in-2020 Retrieved 17/09/2020.

CONVERSATION STARTERS:

When we first went into lockdown, examinations had not yet been cancelled. Prior to examinations being cancelled in lockdown, what was your experience of student test-anxiety? How did you support students, if at all?

What is it like at the moment in school supporting students with test-anxiety following Covid-19? How is it different to pre-Covid-19?

Thinking about the future, how do you think Covid-19 will have had an effect on examination-anxiety? What about for students who taking their examinations next year?

How do you think it will be next year for students due to take examinations?

Are there differences in the way you will approach test-anxiety with students now? What is different? What is the same?

How could support for test-anxiety be improved in your classroom? What would help?

PROMPTS:

What else?

Tell me more.

Can you give me an example?

How do you know?

What would it look like?

How does that make you feel?

SHIFTING TO A NEW TOPIC:

We've talked about … for a while now. What else is important to you about supporting students with test-anxiety?

Can you think of some other things that you have experienced supporting students with test-anxiety during/after the pandemic?

Can you clarify what you mean by…?

CLOSING QUESTION:

Can you think of anything else you would like to say about supporting students with test-anxiety during/after the pandemic?

Is there anything else you would like to add to what you have already said?

DEBRIEF:

- o Thank for taking part.
- o Reiterate confidentiality.
- o What happens next?
- o If you have any questions, please ask me now or ask contact me afterwards by phone/email.

Appendix J   Six Stage Approach to Reflexive Thematic Analysis, Adapted From Braun & Clarke (2006)

1. Familiarisation:	• Transcribe the data from the voice recordings. • Read and reread the data.
2. Develop initial codes:	• Select interesting and important features from the data set relevant to answering the research questions. • Develop succinct labels for each of these features. • Collate the codes and relevant data extracts.
3. Search for themes:	• Examine the codes and collated data to develop broader patterns of meaning. • Collate data relevant to each developed theme.
4. Review the themes:	• Check the themes are in line with the initial coding. • Check the themes are consistent with the entire data set and that they are relevant to the research questions. • Themes may be refined, split or discarded.
5. Define and name the themes:	• Develop detailed description and analysis of each theme. • Ensure the name of each theme is clearly defined.
6. Producing the report:	• Create a thematic map of the analysis. • Select significant quotes and examples in order to report a strong analysis. • Ensure the quotes and examples used can be linked back to the aims and objections. • Contextualise the analysis with previous literature reported in the literature review.

Appendix K   Thematic Analysis Codes and Themes

Table K1

Table of Primary Codes for Teacher and Educational Psychologist Interviews.

Interviewee	Primary Code	Number of Coding References
Teachers	Social restrictions	6
	High levels of anxiety overall	5
	Increased pressures this year	10
	Not enough time	7
	Students haven't had the same opportunities	14
	Have more time to give to students	4
	Self-efficacy	3
	Increase knowledge	1
	School level change	6
	Wider system issues	6
	Parent role	5
	Peer support	2
	Using other systems, qualifications or roles in school	18
	Lack of control	20
	Remote or virtual working	11
	Academic support for students	30
	Offering students reassurance and someone to talk to	25
	Identifying which students need support	7
Educational Psychologists	Awareness of test-anxiety in schools	10
	EP time and capacity	9
	Lack of experience	14
	Remote and virtual working	4
	Uncertainty	14
	Catching up on missed work	2
	Generalised anxiety	29
	Planning for the future	4
	School level support	14
	Student voice	25
	Whole school	11
	EP role in schools	14

Consultation	20
Intervention	27
Training	22

Table K2

Example of Coding Process from Teacher and Educational Psychologist Interviews.

Direct Quote	Primary Code	Subtheme	Main Theme
We call it a walking talking mock, so I actually show the kids the examination paper that I've got in front of me which is the same as theirs, and we read it out to them and we highlight and underline and talk through examination techniques with them. (T2)	Academic support for students	Teacher role	Varied support for test-anxiety
That's the problem with COVID specifically, is that the staff and the students just have no control whatsoever. So it's a tricky balance of trying to, you know, we're in the English office having these conversations, you know, what we're going to do with this, when this happens, blah, blah, and it's with, you know, you have to be really careful with how you can support the kids because you can't tell them, you can't predict the future. (T1)	Lack of control		
In this current climate what I've done, which I've never done with any year 11 class I've had before, they've all had an individualised postcard sent home before half term to say, it's been great to see you back in school, like really enjoying your lesson, your company in the lessons, you're doing a grand job, like, let's move forward. (T3)	Emotional support		
We surveyed… and that enabled us to kind of gauge you know just how they were feeling about coming back into school, so how anxious they might be about actually physically coming to school, and how they felt about lessons and learning. (T4)	Tailored support for those who need it		
T6: Yeah. So initially, when it first started, we weren't really kind of set up for sort of online lessons or anything like that. So we were really just using email. Interviewer: Okay. Yeah. T6: So I would email individual students or like a whole class of students at once. Yeah. And to be honest, you know, sometimes it'd be very variable how many would reply, sometimes you get, you know, just only a few replying. Sometimes you get kind of half a class replying. (T6)	Remote or virtual working		

We do put things on our website, and we do try and flag that to parents as well. (T4)	Parent role	External to the teacher	
They've missed time with their friends, which might have also been beneficial to their studies as well. Because when they're with friends, they do talk a lot. You know, they might not admit it, but they do talk about work. And they do get information off each other. And I just feel like they'll have generally, they'll probably generally feel like they've missed out generally. And that's bound to make them sort of think in the back of their mind, oh I'm not going to do very well in this examination. (T6)	Peer support		
I, as a year 10 tutor, started doing online tutorials um which we did 1 a week per person and they were in small groups so rather than being on their own they were in groups which I designed with their friendship groups in mind um so that they felt comfortable enough to talk about what was going on and how they were getting on with their work and also just talking about life really because as a tutor I don't teach them anything subject wise but we talk about how to face our fears and how to be resilient and now well in lockdown we spoke about how to organise our time now they're having to do it on their own. (T2)	Using other systems, qualifications or roles in school		
I think it's gonna get worse because even now, especially with the lack of contacts you can have in schools between teachers and students, and we can't run any of the revision classes. And so there's no infrastructure for them to revise in school. And so the system's kind of gone out of place. We can't prepare them to do their own revision because you're limited by how close you can get to them. So they're not really learning how to revise properly... they're using really poor tactics like reading the book. So they're spending three hours reading a book, and they're not getting much from it, because it's not a very efficient way to revise, but you can't spend enough time with them on a personal basis, cos you can't get close enough to pick out what they are and aren't doing. I think it's more you can't prepare them like you could before. (T5)	Social restrictions	Barriers	Future support for test-anxiety
I think generally, there's just a lot more anxiety about everything about us. You know, students, I think in every year group are much more anxious. I	High levels of anxiety overall		

feel like that will just continue, really, and it will, I think it could possibly get worse towards the end of the year. And it could possibly, I'm sure that there will be more anxiety around before examinations. (T6)			
And then we've got at my current school, we've got the year 10s who have just gone into your 11. And they have a bit of added pressure and a bit more worry in the sense that we don't know if we're going to go into lockdown. Again, they don't know if they're going to do their full examinations. (T1)	Increased pressures this year		
It's really difficult because we're governed by time, it's the very nature schools. (T7)	Not enough time		
I've always been quite, I'm sort of one of these teachers that I'm, you know, I like to be there for them. I did a lot of mentoring in my old school as well, just because the kids tend to feel quite comfy with me. And I generally give that I'm not your typical kind of snooty professional teacher, I spose so the kids tend to like me. So I don't know if I will have to change much. Because I think I'm quite supportive anyway, not in a big headed way. (T1)	Self-efficacy		
Yeah, they haven't the year 12s now so obviously the year 11s last year, they haven't got any scope on how important examination technique is, they've got almost like the examination technique is non existent because they don't know how to answer examination questions. So you're doing obviously A level is much more examination question based. And they just don't have a clue. Like they don't know. Usually you build on the GCSE stuff, but they haven't got that to build on. (T5)	Students haven't had the same opportunities as previous years		
If I had more time to work with a student who I knew were particularly anxious. And I could spend either a couple of hours a week, just working with them one to one. (T6)	Have more time to give to students	Improving support	

I think possibly that actually teachers need to be a little bit more upskilled in it, and know a little bit more about possibly the theory or so behind it in terms of actually being able to identify it early enough to put some form of intervention in to stop it before it because otherwise it can build up, build up, build up and it actually gets worse where that student doesn't come into school. That's the worst route you want to go down. But if teachers can't identify it, then that that's where the first step has got to be like, do teachers need to be a bit more informed in this area, instead of sometimes, I'm not saying they brush it under the carpet, but do they move on to the next I don't know possible challenge that they've got in the classroom, which is the kid chucking his pencil case around because he's bored or whatever. But, that would be my kind of way of thinking of how we could improve it is actually, do we need know more about it? (T3)	Increase teacher knowledge		
We did last year, we put them into other exams that were happening to show them the setup, so they weren't sitting that paper, but they could see the students lining up, how the teachers behaved, how the invigilator behaved, they would talk to the invigilators as well. (T5)	School level change- microsystem		
You know its a one size fits all system for so many different types, styles and individuals, I'm getting on a soapbox, but we squeeze them through one way of assessment. You know, we haven't got coursework anymore. So, you know, students now have to perform the science at the end of two years for GCSE of two papers for biology and that's it. So if they're not, you know, stress free, relaxed calm for those essentially two papers, then that's, you know, so, yeah, that that would be my little wish list. If they could answer to that paper in their preferred time, and maybe in a style that best suits them. (T7)	Wider system issues- exosystem		
I also wonder whether SENCOs would necessarily know about it, because SENCOs have more to do with the SEN. And I think quite often, the performance anxiety might be to do with those children who are trying to perform really well, and who are maybe the more high achievers. So I just wonder whether we're even speaking to the right people. And that's why it's quite interesting that that was offered, and also that I was having a	Awareness of test-anxiety in schools	Challenges	Broader issues

conversation with the assistant deputy principal who had responsibilities in other areas of the school, not just SEN. So he would know about the performance side and also the anxious students and wanted them to do well. So he had another hat on. (EP3)			
I'm thinking it sounds great. Let's do it, you know. But then you know, you get to February and you have a million statutory assessments and you think, well, that was a nice idea. And I don't know if I can take it on board. So it's sort of that tension in the EP world of batting stuff away and embracing, and being creative really, which we all struggle with. (EP6)	EP time and capacity		
Unfortunately, I haven't had an awful lot of experience, because a lot of the anxiety wasn't necessarily focused on examinations, it was perhaps more focused on just being in school. (EP5)	Lack of experience		
I suppose the biggest thing would be it would be virtual platforms that would need to be used, rather than, you know, the face to face within school. And of course, it depends on guidelines and Covid incidence by that stage. Previously, I mean, for example, things like you know, the workshops and things that I described, I mean, they wouldn't be able to take place, but you might have some young people who may be more comfortable to go on a virtual platform to have a group or something of that nature. (EP2)	Remote and virtual working		
I think we've got to be thinking much more proactively about, as I mentioned earlier, about the uncertainty of when? Where? And I think we've got to prepare our students that there is going to be uncertainty, uncertain times. (EP5)	Uncertainty		
I think students in year 11 now, kind of had their year 10 disrupted, I just think it's really likely that they're even more worried about their performance, because they'll have had less time to be taught. And I think my worry is that schools are being more pressured to still get the results. (EP7)	Catching up on missed work	Other priorities	
I think it would be difficult to make the difference between generalised anxiety related and an anxiety related to COVID, as opposed to test anxiety. You know, I just wonder whether that the thought of having tests	Generalised anxiety		

is going to be like a secondary concern to them. And rather than being a primary concern, so you know what I mean there? There might be anxiety there, but the anxiety be focused, because anxiety is often about uncertainties as well as performance. So there's the uncertainty attached to the situation of, are we gonna do examinations? We're not going to do examinations? Are we going to school? Is it going to be closed down? Is it not going to be closed down? You know, is it the anxiety around rather than the test anxiety? And I wonder if that test anxiety will be overlooked? Because it's not the primary area of uncertainty for schools, or for the people involved. (EP3)			
I imagine that there will be all sorts of further anxieties, which go beyond the actual GCSE examinations themselves about, then what? And what are my future aspirations? What about the future generally? And for those highly anxious students there's kind of catastrophizing, which they have done previously, oh if I don't get an eight in maths, then, I won't get to the university, I won't get through and then get to the Russell Group university I want to go to and then I won't get the job I want to get, and all of those sorts of thinking. And I guess now, there's going to be a whole other load of things. (EP4)	Planning for the future		
It just has that personal element. And I feel like it supports the schools, because they feel they feel they're building their own capacity, and they feel like their local person. And it's not necessarily being expert-y, it's just their local person who knows about this, and is supporting the school with it. I like that model, I think it kind of fits. At the EPS day, we were talking about making training more relevant and that's one of the ways I think. (EP6)	School level support	Systemic approaches	Varied approaches to support test-anxiety
… the idea about making it relevant and realistic for you and knowing yourself a bit. And I suppose the first part would be about knowing yourself and your strengths and weaknesses. And that there is no right and wrong and just trying to ease them into it, and not feel like they have to be like the model that's been presented. (EP6)	Student voice		

I suppose would be to think about how you could leave that capacity with school, so thinking about working with pastoral staff, to hand some of the examination anxiety strategies to them. (EP1)	Building whole school capacity		
Schools are recognising that actually the 6-10 pupils that had got this group intervention, actually, there were a lot of things from that, that we could use for a wider and wider session. (EP1)	Broadening target group		
So basically, there were small groups that we facilitated, where they were able to have discussions and then look at those different areas. What else we did was, we had a look at how they rated themselves on where they thought they were with the levels of exam anxiety, and the stress that that was causing. Then we talked through that. And we found that quite often the peer support after they'd got over the initial joking around it, they were very supportive and helpful to each other, facilitated by adults within those within those groups. (EP2)	Group work		
I think it's really a good idea if EPs can start asking those searching questions about the students that they've got in schools, the type of students they've got in the school, and asking school, which particular group of students that they feel will struggle. (EP5)	Communicating with schools		
I guess, in talking to you, I realise that I should, in planning meetings and in dealings with my secondary schools, I should be asking them more about anxiety around exams and how they prepare and what they do. And I feel like I haven't now so I feel I might have to send them an email. (EP6)	Planning meetings		
… he was able to really explore that and kind of describe it and just, you know, just be contained in someone listening to him and really understanding that and kind of doing all that sort of feedback in about how difficult that must be and how frightening it must have been. And again, you can kind of see the relief of just having the experience of being able to share that with somebody. (EP1)	Consultation	Educational psychologist role	

We looked at a CBT type approach. And talking about all this, the work, of common worries that were coming up, and getting students to share their views on those, and they were always really interested to see the similarities between all their worries. We also explored the physiological experiences of those emotions and how they're affecting them. And we talked about strategies to deal with relaxation, making sure they had revision techniques and how you might plan your timetable, making sure there were breaks, physical activity. Things that keep you mentally healthy. (EP7)	Intervention		
It was supposed to be delivered once a week in a school with six to eight students, and with a member of staff, not so much co facilitating necessarily but enabling the link into school so that the students have a member of staff who knows what's going on, who can provide a link in the school. So, one of the things that the analysis has found has suggested that key member of staff is key, is critical, to the likely success of the intervention in that where EPs feel that the member of staff has been really effective. That has made a big difference to the outcomes. (EP4)	Training		

Appendix L   Thematic Maps

Figure L1

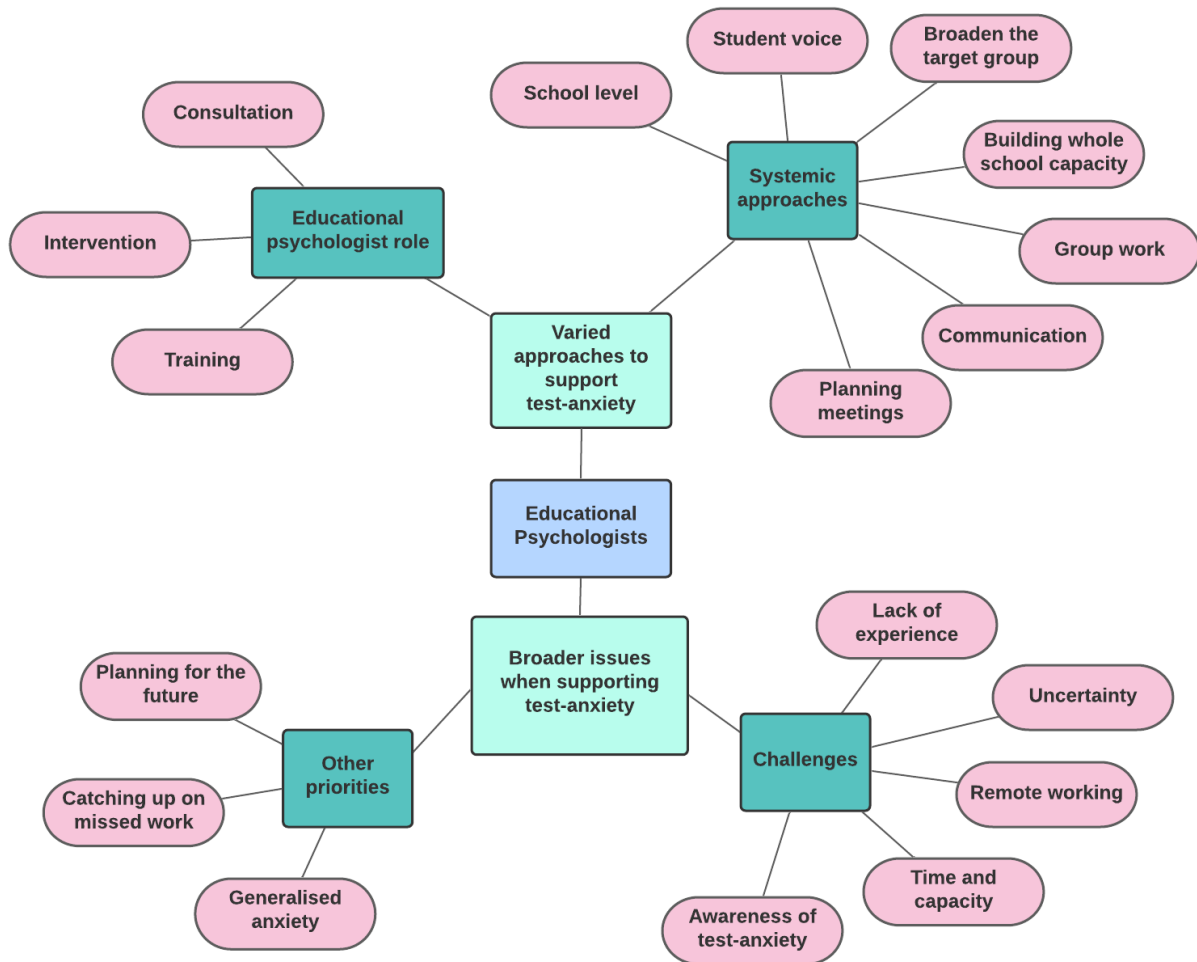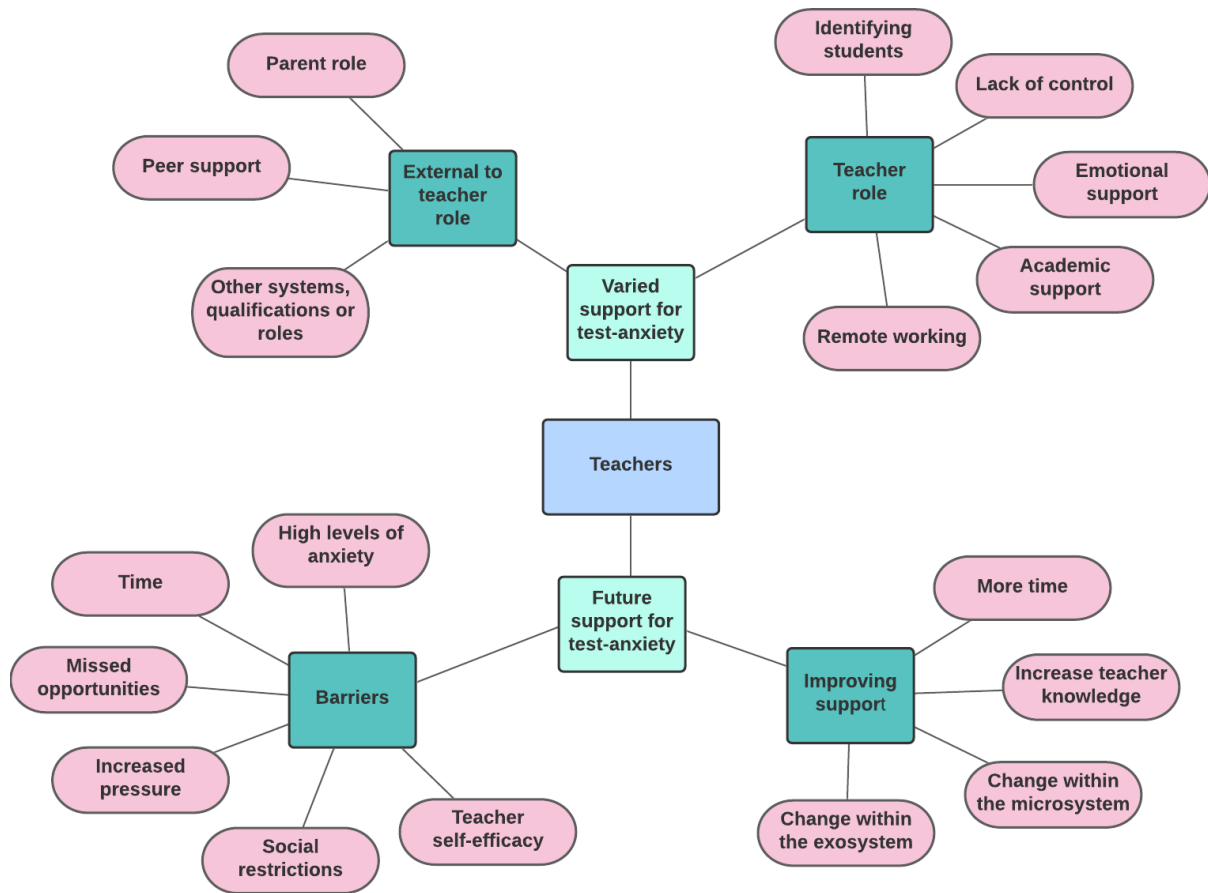*Thematic Map from Educational Psychologist Interview Data.*

Figure L2

Thematic Map from Teacher Interview Data.

Appendix M Ethics Application Form

COLLEGE OF SOCIAL SCIENCES AND INTERNATIONAL STUDIES

All staff and students within SSIS should use this form; those in Egenis, the Institute for Arab and Islamic Studies, Law, Politics, the Strategy & Security Institute, and Sociology, Philosophy, Anthropology should return it to ssis-ethics@exeter.ac.uk. Staff and students in the **Graduate School of Education** should use ssis-gseethics@exeter.ac.uk.

Before completing this form please read the Guidance document
which can be found at http://intranet.exeter.ac.uk/socialsciences/ethics/

Applicant details	
Name	**Rosanna Pengelly**
Department	**Graduate School of Education – DEdPsychology**
UoE email address	**rp542@exeter.ac.uk**
Duration for which permission is required	

Please check the meeting dates and decision information online before completing this form; your start date should be at least one month after the Committee meeting date at which your application will be considered. You should request approval for the entire period of your research activity. Students should use the anticipated date of completion of their course as the end date of their work. Please note that retrospective ethical approval will never be given.

Start date:31/07/2020	End date:31/08/2021	Date submitted:08/07/2020

Students only

All students must discuss (face to face or via email) their research intentions with their supervisor/tutor prior to submitting an application for ethical approval. **Your application must be approved by your first or second supervisor (or dissertation supervisor/tutor) prior to submission and you MUST submit evidence of their approval with your application, e.g. a copy of an email stating their approval.**

Student number	660053777
Programme of study	**Doctor of Educational Psychology (DEdPsych)**
Name of Supervisor(s) or Dissertation Tutor	**Shirley Larkin & Caroline Gallagher**
Have you attended any ethics training that is available to students?	**2 university sessions as part of DEdPsych course 01/11/2018 and 13/11/2019**

Certification for all submissions

I hereby certify that I will abide by the details given in this application and that I undertake in my research to respect the dignity and privacy of those participating in this research.
I confirm that if my research should change significantly I will seek advice, request approval of an amendment or complete a new ethics proposal. Any document translations used have been provided by a competent person with no significant changes to the original meaning.

Rosanna Pengelly
Double click this box to confirm certification ☒
☒**I confirm that if I travel outside the UK to conduct research I will:**
   (a)   **Obtain International Travel Insurance from the University of Exeter. (b) Monitor Travel Advice from Worldaware and the Foreign & Commonwealth Office (FCO) and (c) Complete an International Travel Risk Assessment**

Submission of this ethics proposal form confirms your acceptance of the above.

TITLE OF YOUR PROJECT

Exploration of the most effective ways for teachers to support students with test-anxiety.

ETHICAL REVIEW BY AN EXTERNAL COMMITTEE

No, my research is not funded by, or doesn't use data from, either the NHS or Ministry of Defence.

If you selected yes from the list above you should apply for ethics approval from the appropriate organisation (the NHS Health Research Authority or the Ministry of Defence Research Ethics Committee). You do not need to complete this form, but you must inform the Ethics Secretary of your project and your submission to an external committee.

MENTAL CAPACITY ACT 2005

No, my project does not involve participants aged 16 or over who are unable to give informed consent (e.g. people with learning disabilities

If you selected yes from the list above you should apply for ethics approval from the NHS Health Research Authority. You do not need to complete this form, but you must inform the Ethics Secretary of your project and your submission to an external committee.

SYNOPSIS OF THE RESEARCH PROJECT

Maximum of 750 words.

Test-anxiety is a topic that has been researched since the 1950's however only in the last 20 years has it become a well-researched topic with UK populations. Whilst there is an increasing amount of research on test-anxiety in the UK, little is known about teacher knowledge of test-anxiety and how this knowledge can be increased through psychological knowledge. In addition to this, little is known about teacher and educational psychologist experiences of supporting students with test-anxiety in the current context of a global pandemic, e.g. Covid-19.

To meet this gap in the literature, the proposed research takes the form of two phases. The research will be conducted across mainstream secondary schools in England.

Phase One:
The first phase of the research aims to understand how teachers support students with test-anxiety in mainstream secondary schools. The research question for phase one is:
1. What does the literature tell us about teacher support for test-anxiety?
This will be explored through a systematic review of the test-anxiety literature.

Phase Two:
The second phase of the research aims to understand teacher and educational psychologist perceptions of student test-anxiety in the current context of Covid-19 in mainstream secondary schools. The research questions for phase two are:
1. What are teacher experiences of supporting students with test-anxiety during and following the Covid-19 pandemic?
2. How do educational psychologists feel they can support schools with alleviating student test-anxiety during and following the Covid-19 pandemic?
This will be explored by carrying out online interviews with teachers to understand teacher experiences of supporting students with test-anxiety during, and following the Covid-19 pandemic, and online interviews with educational psychologists to understand the role educational psychologists have in supporting schools with this.

INTERNATIONAL RESEARCH

N/A

The following sections require an assessment of possible ethical consideration in your research project. If particular sections do not seem relevant to your project please indicate this and clarify why.

RESEARCH METHODS

Phase One:
In phase one I will carry out a systematic literature review. This will involve collecting secondary data, critiquing and synthesising previous findings. The review will enable me to identify the implications for practice and policy, and highlight the direction for future research.

Phase Two:
My data collection will consist of online interviews with teachers and educational psychologists. Due to current social distancing restrictions as a result of the Covid-19 global pandemic the interviews will take place remotely using video call on Microsoft Teams. The interview audio will be recorded with the permission of the interviewee and transcribed anonymously following the interview. The recording will deleted once it has been transcribed.

I will use semi-structured interview schedules in order to ask open-ended questions and encourage discussion. Data analysis will consist of synthesising themes from the interviews through the method of thematic analysis.

PARTICIPANTS

For phase 2 of the research:

6-8 teachers, across mainstream secondary schools in England. The sample will include teachers with at least 3 years experience teaching. The teachers asked to participate will be those who teach year 10 and 11 in preparation for GCSE examinations. They will be recruited through a request for volunteers via email to the headteacher of each school.

6-8 educational psychologists in England. The sample will include fully qualified educational psychologists who have carried out a masters or postgraduate qualification. They will be recruited through a request for volunteers via email to principal educational psychologists in local authorities.

THE VOLUNTARY NATURE OF PARTICIPATION

All participants for this study will be informed of the purpose and process of the research. An information sheet and consent form will be given to participants requesting a signed consent form back if they are willing to take part in the research. Participants will be informed they have a right to withdraw at any time, up until the point of data analysis.

SPECIAL ARRANGEMENTS

N/A

THE INFORMED NATURE OF PARTICIPATION

Information about the study will be provided to participants in the form of information sheets. Informed consent will be obtained in line with the HCPC standards of proficiency (2015), this means that I must practice within the legal and ethical boundaries of my profession which involves understanding the importance of, and being able to obtain informed consent of those I am working with. All participants will be fully informed of the aims, purposes, procedures and research questions of the research prior to participating. Confidentiality will be maintained throughout and all data collected across both phases of the research will be anonymised with all data and information kept securely and password protected. No data will be shared with senior management and schools and educational psychology services will not be identifiable. All participants will be informed about their right to withdraw from the study at any time, without giving a reason, up until the data are analysed (as outlined in the consent form below).

Consent will be gained from teachers and educational psychologists taking part in this study.

ASSESSMENT OF POSSIBLE HARM

I can confirm that I have read and will abide by the BERA Ethical Guidelines (2018) and BPS Code of Ethics and Conduct (2018).

The current study will need to ensure that no pressure is exerted on participants to take part in the research. I must understand how power dynamics may have an impact on this between the senior staff member who agrees to the research, and those participating. Steps taken to avoid exerting pressure on participants will include respecting the autonomy of individuals and communicating appropriately and effectively with senior members of staff in order to provide clarity and transparency about the research process and ethical boundaries. I will do this by listening to individuals' perspectives and views, ensure they know they do not have to take part in the research and can withdraw at any time, provide all participants (including senior leadership) with an information sheet detailing the research purposes and process, and drawing attention to the ethical boundaries of my practice.

Phase two of the current study requires participants to discuss student test-anxiety in the context of the Covid-19 pandemic. Therefore, it is essential that participants are aware of the sensitive nature of discussions e.g. personal experience of Covid-19. It is unlikely that the study will induce psychological distress or anxiety, or cause harm or negative consequences beyond the risks encountered in normal life and all efforts will be made to minimise potential negative effects. In the unlikely event that participants experience emotional or psychological distress during the interview, they will be free to leave at any time. Participants will be made aware that if any information they report to the researcher is a cause for concern in terms of the participants' safety or the safety of others then confidentiality will be broken. If appropriate, participants will be directed to relevant support services (e.g. Education Support Partnership) and at the end of the interview will have the opportunity to reflect on any issues that arose.

A debrief information sheet will be used which explains the next steps of the research and how the data they have provided will be used, reported, stored and eventually destroyed. This sheet will also contain contact details for the researcher in case the participants have any further questions about the research.

Due to data collection using online methods I will ensure participants are fully informed of the process of the research study, this will be via the information sheet provided, and a discussion

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to ensure they have given consent at the start of the interview. All participants will be informed the interview will be audio recorded and that the recording will be transcribed after the interview. All data will be anonymised and destroyed after a maximum of five years.

The researcher has enhanced DBS clearance through the university.

DATA PROTECTION AND STORAGE

The individual interviews of teachers in phase two will be carried out using an online video link on Microsoft Teams, meeting the university of Exeter data security criteria. The interviews will be audio recorded using a password encrypted device. All data collected across phase two will be anonymised with all data and information kept securely and password protected. I will need to keep records of confidential and personal information about participants however this will be kept to a minimum and will only be collected if absolutely necessary (for example, name, and contact details). This information will only be accessible to me in order to maintain a satisfactory level of confidentiality. All participants will be informed of the confidentiality and anonymity of data collected. All data will be deleted within one year of any final publications being made, and after a maximum of five years. Written notes from the interviews will not contain any names or personal data, and will be destroyed after analysis. All research will be presented in anonymised form.

DECLARATION OF INTERESTS

This research has no commercial interests and all the information within the research will be solely used for the purpose of my thesis.

USER ENGAGEMENT AND FEEDBACK

Participants involved in the second phase of the research will be given the opportunity to ask any questions and discuss anything that arose during their interview. They will be provided with information including the key findings of the research via email communication.

INFORMATION SHEET

INFORMATION SHEET FOR TEACHERS

EXPLORATION OF THE MOST EFFECTIVE WAYS FOR TEACHERS TO SUPPORT STUDENTS WITH TEST-ANXIETY.

You are invited to take part in the above research project. Before you decide to do so, it is important that you understand why the research is being done and what it will involve. Please take time to read the following information carefully.

Who am I?

My name is Rosie Pengelly and I am a trainee educational psychologist at Exeter University at the Graduate School of Education, currently studying on the Doctorate of Educational Psychology course.

What am I doing?

As part of my course I am undertaking a two-phase thesis. Firstly, the research project aims to understand what is known about supporting students with test-anxiety. Secondly, the project aims to explore teacher experiences of supporting student test-anxiety during and following the Covid-19 pandemic, and an exploration of how educational psychologists can support schools with alleviating test-anxiety during and following the Covid-19 pandemic.

Why am I doing this research?

Educational psychologists are well placed to increase awareness of positive mental health in schools. The mental health of children and young people has become a key topic of discussion in recent years and anxiety is one of the most common mental health difficulties for children and young people. It seems that test-anxiety in particular effects 15-22% of students and is often connected to negative outcomes in schools. In addition to this, little is known about teacher experiences of supporting students with test-anxiety in the current context of a global pandemic, e.g. Covid-19. Therefore, my research will explore proactive and preventative work within schools to support test-anxiety and promote positive mental health in the current context.

Why have you been approached?

I will be speaking to teachers across secondary schools in England. You have been asked because you teach year 10 and year 11 students in preparation for their GCSEs.

I will also be speaking to educational psychologists in England.

How will it work?

The first phase of my research will be a systematic review of the test-anxiety literature to understand what we already know about supporting students with test-anxiety.

The second phase of the research will involve individual interviews with teachers and educational psychologists to explore their views about test-anxiety. The interviews will be carried out via an online platform, such as Microsoft Teams. The interviews will be audio recorded and transcribed, all data will be kept securely in accordance with GDPR. The interviews will take 30-45 minutes and can be arranged at a time that is most convenient for you.
Once all online interviews have been completed, I will draw together the key themes from the teacher and educational psychologist interviews respectively. If you wish to see the transcript of your interview, I can send this to you.

How will my information be kept confidential?

The information that you provide during the research will remain anonymous in the writing up of the research. No one reading the research project will be able to identify you or any other participant from the final written product. All data collected will be treated with the strictest confidence and will not be disclosed to any third parties. Your data will be kept safely and securely in accordance with the Data Protection Act and may be kept for up to five years and then safely destroyed.

What will you gain from taking part?

Taking part in this research will enable you to reflect on your knowledge and experiences of supporting young people with test-anxiety in an interview with a trainee educational psychologist. It is hoped that your participation in this research will contribute to our of understanding the implications of the Covid-19 pandemic for children and young people.

What will happen to the findings of the study?

Once all data from the research has been collected, I will write up the findings in the form of a thesis. Once you have finished your part of the research you will be debriefed and given the opportunity to ask any questions about the research process. If you would like, I will send you an anonymised summary of the findings of the research.

How do you give permission to take part?

Everyone who takes part in this research will give their full written consent to participate. Participants that give consent will take part in phase two of the study. Please only give this consent if you want to take part and you feel you have been provided with enough information about the research. Once you have given permission to participate you are free to withdraw from the study, without having to give any reason, at any time up until the point of data analysis. All data will be fully anonymised in this study.

If you have any further questions for my supervisors or I at any time during the research process, please don't hesitate to contact us using the details below.

Rosie Pengelly: rp542@exeter.ac.uk
Shirley Larkin: S.Larkin@exeter.ac.uk
Caroline Gallagher: C.Gallagher@exeter.ac.uk

Graduate School of Education
Exeter University
St Lukes Campus
Heavitree Road
EX1 2LU

Thank you for your interest in this project.

UNIVERSITY OF
EXETER

INFORMATION SHEET FOR EDUCATIONAL PSYCHOLOGISTS

EXPLORATION OF THE MOST EFFECTIVE WAYS FOR TEACHERS TO SUPPORT STUDENTS WITH TEST-ANXIETY.

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As part of my course I am undertaking a two-phase thesis. Firstly, the research project aims to understand what is known about supporting students with test-anxiety. Secondly, the project aims to explore teacher experiences of supporting student test-anxiety during and following the Covid-19 pandemic, and an exploration of how educational psychologists can support schools with alleviating test-anxiety during and following the Covid-19 pandemic.

Why am I doing this research?

Educational psychologists are well placed to increase awareness of positive mental health in schools. The mental health of children and young people has become a key topic of discussion in recent years and anxiety is one of the most common mental health difficulties for children and young people. It seems that test-anxiety in particular effects 15-22% of students and is often connected to negative outcomes in schools. In addition to this, little is known about teacher experiences of supporting students with test-anxiety in the current context of a global pandemic, e.g. Covid-19. Therefore, my research will explore proactive and preventative work within schools to support test-anxiety and promote positive mental health in the current context.

Why have you been approached?

I will be speaking to teachers and educational psychologists in England. You have been asked because you are an educational psychologist working in England.

How will it work?

The first phase of my research will be a systematic review of the test-anxiety literature to understand what we already know about supporting students with test-anxiety.

The second phase of the research will involve individual interviews with teachers and educational psychologists to explore their views about test-anxiety. The interviews will be carried out via an online platform, such as Microsoft Teams. The interviews will be audio recorded and transcribed, all data will be kept securely in accordance with GDPR. The interviews will take 30-45 minutes and can be arranged at a time that is most convenient for you.
Once all online interviews have been completed, I will draw together the key themes from the teacher and educational psychologist interviews respectively. If you wish to see the transcript of your interview, I can send this to you.

How will my information be kept confidential?

The information that you provide during the research will remain anonymous in the writing up of the research. No one reading the research project will be able to identify you or any other participant from the final written product. All data collected will be treated with the strictest confidence and will not be disclosed to any third parties. Your data will be kept safely and securely in accordance with the Data Protection Act and may be kept for up to five years and then safely destroyed.

What will you gain from taking part?

Taking part in this research will enable you to explore and reflect on your knowledge and experiences of how educational psychologists can support schools to alleviate test-anxiety. It is hoped that your participation in this research will contribute to our of understanding the implications of the Covid-19 pandemic for children and young people.

What will happen to the findings of the study?

Once all data from the research has been collected, I will write up the findings in the form of a thesis. Once you have finished your part of the research you will be debriefed and given the opportunity to ask any questions about the research process. If you would like, I will send you an anonymised summary of the findings of the research.

How do you give permission to take part?

Everyone who takes part in this research will give their full written consent to participate. Participants that give consent will take part in phase two of the study. Please only give this consent if you want to take part and you feel you have been provided with enough information about the research. Once you have given permission to participate you are free to withdraw from the study, without having to give any reason, at any time up until the point of data analysis. All data will be fully anonymised in this study.

If you have any further questions for my supervisors or I at any time during the research process, please don't hesitate to contact us using the details below.

Rosie Pengelly: rp542@exeter.ac.uk
Shirley Larkin: S.Larkin@exeter.ac.uk
Caroline Gallagher: C.Gallagher@exeter.ac.uk

Graduate School of Education
Exeter University
St Lukes Campus
Heavitree Road
EX1 2LU

Thank you for your interest in this project.

CONSENT FORM

UNIVERSITY OF EXETER

TEACHER CONSENT FORM

I have been given the opportunity to read the information sheet given to me, and I understand this information.

**Please complete and return this form as soon as possible.

I, _____, give/do not give (please delete as appropriate) my consent to take part in this research project.

I understand that:

- All information I give will be treated as confidential.

- The researcher will make every effort to preserve my anonymity.

- Any information which I provide to the researcher will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations.

- It is not compulsory for me to participate in this research project and, if I choose to participate, I may withdraw from the research at any time without giving a reason, up until the data is analysed by the researcher.

_____   _____

(Signature)   (Date)

_____

(Printed name)

UNIVERSITY OF EXETER

EDUCATIONAL PSYCHOLOGIST CONSENT FORM

I have been given the opportunity to read the information sheet given to me, and I understand this information.

**Please complete and return this form as soon as possible.

I, _____, give/do not give (please delete as appropriate) my consent to take part in this research project.

I understand that:

- All information I give will be treated as confidential.

- The researcher will make every effort to preserve my anonymity.

- Any information which I provide to the researcher will be used solely for the purposes of this research project, which may include publications or academic conference or seminar presentations.

- It is not compulsory for me to participate in this research project and, if I choose to participate, I may withdraw from the research at any time without giving a reason, up until the data is analysed by the researcher.

_____   _____

(Signature)   (Date)

_____

(Printed name)

SUBMISSION PROCEDURE

Staff and students should follow the procedure below.

Post Graduate Taught Students (Graduate School of Education): Please submit your completed application to your first supervisor.

All other students should discuss their application with their supervisor(s) / dissertation tutor / tutor and gain their approval prior to submission. Students should submit evidence of approval with their application, e.g. a copy of the supervisors email approval.

All staff should submit their application to the appropriate email address below.

This application form and examples of your consent form, information sheet and translations of any documents which are not written in English should be submitted by email to the SSIS Ethics Secretary via one of the following email addresses:

ssis-ethics@exeter.ac.uk   This email should be used by staff and students in Egenis, the Institute for Arab and Islamic Studies, Law, Politics, the Strategy & Security Institute, and Sociology, Philosophy, Anthropology.

ssis-gseethics@exeter.ac.uk   This email should be used by staff and students in the Graduate School of Education.

Please note that applicants will be required to submit a new application if ethics approval has not been granted within 1 year of first submission.

Appendix N   Ethics Approval Certificate

UNIVERSITY OF
EXETER

GRADUATE SCHOOL OF EDUCATION

St Luke's Campus
Heavitree Road
Exeter UK EX1 2LU

http://socialsciences.exeter.ac.uk/education/

CERTIFICATE OF ETHICAL APPROVAL

Title of Project:
Exploration of the most effective ways for teachers to support students with test-anxiety.

Researcher(s) name: Rosanna Pengelly

Supervisor(s):   Shirley Larkin
Caroline Gallagher

This project has been approved for the period

From: 31/07/2020
To: 31/08/2021

Ethics Committee approval reference: D1920-213

Signature: Date: 10/07/2020

(Professor Justin Dillon, Professor of Science and Environmental Education, Ethics Officer)