USING MIXED METHODS TO EXPLORE TEST ANXIETY IN YOUNG PEOPLE WITH LEARNING DIFFICULTIES

by

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ABSTRACT

There is growing evidence to suggest that children and young people are experiencing more mental health difficulties (NHS Digital, 2020) and this is especially the case for those with learning difficulties (NHS Digital, 2021). More specifically, there has been a focus on the impact of testing on children and young people's mental health (McCaldin et al., 2019). Much of the current research on test anxiety focuses on children and young people in general and uses quantitative approaches (Putwain, 2007).

This research explores test anxiety in young people (Year 7 and 8) with learning difficulties in cognition and learning. A mixed methods approach was used to measure levels of trait test anxiety and to explore their experiences of test anxiety, specifically their views on tests and what they perceive contributes towards and alleviates test anxiety.

The young people in this study experience a range of feelings associated with tests and exams across different levels of trait test anxiety. They reported that difficulties with understanding and writing and self-concept contributed towards test anxiety. Importantly, they perceive that practical support, emotional support and distraction and relaxation activities are ways to alleviate test anxiety. These findings link with Zeidner's (1998) Integrative Transactional Model of Test Anxiety.

The implications of this research are that whilst some students with learning difficulties do not experiences high trait test anxiety, they can experience some degree of worry and anxiety. Therefore, it is important to be able to provide universal support to all students in order to provide proactive support to help with their worries regarding exams. Additionally, for some students who do experience high trait test anxiety, a more bespoke approach may be

beneficial as it is clear there are many factors which can be associated with higher levels of anxiety.

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LIST OF ABBREVIATIONS

BPS	British Psychological Society
BERA	British Educational Research Association
DfE	Department for Education
CTAS	Children's Test Anxiety Scale
GCSE	General Certificate of Secondary Education
OECD	Organisation for Economic Co-operation and Development
OFSTED	Office for Standards in Education
PISA	Programme for International Student Assessments
SENCo	Special Needs Co-ordinator
WHO	World Health Organisation

CHAPTER ONE: INTRODUCTION

1.1 Introduction

In this chapter, I begin by describing my positionality as a researcher, including the personal and professional reasons for conducting this study. I then state the current context in which I conducted the research including a covid impact statement. Finally, I share the research aims, research questions and structure of this thesis.

1.2. Researcher Positionality

Growing up, I was reminded of the importance of achieving well in tests and exams. This mindset has stayed with me throughout all the tests I have taken. I was also aware of the significance of getting 'good' grades in order to progress into the next stages of education. My experience of testing did not just stop within education, I was also tested as part of completing my grades for piano. I experienced some worry and concern about taking tests, mainly with thoughts about the prospect of not doing well, whether that is in education or music. However, some of this worry benefited me as it motivated me to revise or practice more.

When I worked as a teaching assistant in a mainstream secondary school, I supported students who found it extremely difficult to manage tests and exams as it caused them a lot of anxiety. In addition, some of these students had additional learning difficulties which did not help with their confidence and worry. Therefore, through this, I recognised the importance of understanding how to support students who have additional learning needs with test anxiety.

1.3 Context of Study

Testing is inevitable in education in England, where students are given national tests in primary and secondary school (DfE, 2021). Additionally, students are also given regular testing within class to monitor progress and learning. This can be as frequent as each term or

at the end of each topic (DfE, 2015). Because of the frequent testing, there has been lots of media attention on whether there is 'too much' testing and also the impact on children and young people's mental health (McCaldin et al., 2019). As such, test anxiety has also been a topic of interest for researchers.

During the COVID-19 pandemic, General Certificate of Secondary Education (GCSEs) and A-levels were cancelled for 2020 and 2021 and replaced with assessments by teachers (Weale, 2022). Ironically, based on my experience working within schools during this period, students and teachers reported more testing throughout the year as this was needed to form part of their teacher-assessed grades. Furthermore, because of the uncertainty of the exam situation, I did not feel comfortable interviewing the students in Year 10 or 11 as it could have added to their stress and anxiety. Therefore, I decided that it would have been more ethical to conduct the research with students in Year 7 and 8.

I conducted my study within a mainstream secondary school in the local authority of my placement. As mentioned previously, I developed my research idea and collected data during the COVID-19 pandemic, between 2020-2021. As there were high rates of covid in the community, this caused delays to my data collection as students and staff were unwell or absent. This also meant that the current staff within the school were more unavailable due to lack of staff. As such, the study was conducted in light of the current issues mentioned.

1.4 Research Aims and Questions

In this research, my aim was to explore test anxiety amongst young people with learning difficulties in cognition and learning. Since most research in this area uses quantitative approaches, I wanted to further explore this using a mixed methods approach (Putwain, 2007). This enabled me to understand the extent of students' trait test anxiety and to see if there were

differing feelings and emotions about tests. Furthermore, as it is likely that students will experience some *state* test anxiety (Zeidner, 1998), I wanted to explore all participants' views on what contributes and alleviates test anxiety.

The research questions are as follows:

1. To what extent do students in this sample experience trait test anxiety?
2. How do students with learning difficulties at different levels of test anxiety feel about tests and revision?
3. For students with learning difficulties, what do they perceive contributes towards test anxiety?
4. For students with learning difficulties, what do they perceive alleviates test anxiety?

1.5 Structure

In chapter two, I begin by outlining the literature on mental health, test anxiety and learning difficulties. This will be followed by the rationale, research aims and questions. In chapter three, I describe the methodology, which includes the research paradigm, the research process, methods used and ethical considerations. In chapter four and five, the findings of the study are presented and discussed in relation to the literature. Chapter six includes the conclusions, critique of the study, implications for educational psychologists and future directions.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

In this chapter, I explore the literature surrounding mental health, test anxiety and learning difficulties. It is important to first explore how mental health is defined along with the prevalence for children and young people. Following this, I discuss some of the literature surrounding learning difficulties in children and young people, including some of the cognitive and mental health difficulties they face. I then briefly discuss the background of stress and anxiety, before moving on to the definitions, theory and prevalence of test anxiety. I end by exploring the effects and correlates of test anxiety.

The key rationale for conducting this research is that there is growing evidence of worries and concerns about tests amongst children and young people, and this is especially the case for those with learning difficulties. Additionally, as much of the test anxiety literature uses quantitative methods, it would be useful to further expand the understanding in this area by using qualitative methods as well.

2.2. Mental Health in Children and Young People

2.2.1 Definition of Mental Health

Contemporary definitions of mental health by the World Health Organisation (WHO) describe mental health as being in a state of well-being whereby an individual can recognise their skills, manage daily stressors and be able to contribute to their community (WHO, 2004). Whilst most definitions of mental health note that good mental health is not just about the absence of mental illness, there have been differences about the degree of positive functioning which constitutes ‘good mental health’ (Galderisi et al., 2015). A limitation of previous definitions is they equate positive feelings and functioning to good mental health. However,

an individual with 'good mental health' can also experience negative affect such as sadness and anger. Therefore, Galderisi et al. (2015, pp. 231-232) describe mental health as:

"*…a dynamic state of internal equilibrium which enables individuals to use their abilities in harmony with universal values of society. Basic cognitive and social skills; ability to recognize, express and modulate one's own emotions, as well as empathize with others; flexibility and ability to cope with adverse life events and function in social roles; and harmonious relationship between body and mind represent important components of mental health which contribute, to varying degrees, to the state of internal equilibrium."*

That is, an individual's mental health will fluctuate depending on life stages and whilst mentally healthy people can experience negative affect, they will have the ability to cope in order to restore this equilibrium. Therefore, it would be important to understand more about the factors which are related to negative affect and the strategies which can be used to manage these.

2.2.2 General Trends and Research

In recent years, children and young people's mental health have become an increasing concern (NHS Digital, 2020). This is especially the case since the COVID-19 pandemic. A recent survey conducted by the NHS Digital (2020) found that 16% of 5-16 year olds were likely to have a mental health condition compared to 10.8% in 2017. There are limitations as these were not formal diagnoses but rather based upon estimates using the Strength and Difficulties Questionnaire. Even so, there does seem to be an upward trend in children and young people experiencing poor mental health. More specifically, researchers have conducted surveys to explore children and young people's general feelings of anxiety. The COVID-19 Psychological Research Consortium found that 40-50% of those aged 13 to 24 reported

increased feelings of anxiety (Levita et al., 2020). When comparing with pre-pandemic data, they noted a two-to-three-fold increase.

2.2.3 Self-concept: Self-esteem and Self-efficacy

An area which is related to mental health is an individual's self-concept, which are the 'composite views of oneself' (Bong & Skaalvik, 2003; p. 2). It is formed through an individual's experiences with significant others and the environment. Previously, researchers viewed self-concept as global in nature, however, this has been criticised (Bong & Skaalvik, 2003). This is because there are different dimensions within an individual's perception of themselves e.g. academic competence, social acceptance, conduct and so on (Cole et al., 2003). Research has found that high self-concept is related to more positive mental health in university students (Zhu et al., 2016). That is, those with good self-concept will be objective in their self-evaluation, accepting themselves, which maintains their positive mental health.

Within an individual's self-concept is the idea of self-esteem. There have been differing views on the definition, however, it can broadly be defined as an individual's perceived value of themselves and 'feelings of self-appreciation' (Hosogi et al., 2012; p. 2). Whilst self-concept focuses on what an individual may describe themselves as, self-esteem focuses on the feelings of that description. High self-esteem is key to positive mental health as it is related to feelings of success, satisfaction and achievements (Mann et al, 2004). On the other hand, lower levels of self-esteem are likely to be related to mental health difficulties such as depression and anxiety (Mann et al., 2004). Having high self-esteem acts as a protective factor as it counteracts the impact of stressors. Those with high self-esteem will perceive stressors as low-threat and will feel they have the ability to choose the appropriate coping strategies to manage.

Self-efficacy can also fall under an individual's self-concept. Self-efficacy is the belief about their ability to perform a task to reach a certain goal (Bandura, 1982). Whether the belief is accurate or not, it is likely to influence the choices of activities that individuals undertake. That is, they may undertake a task which they feel is within their capabilities but may avoid a task that they deem is beyond their abilities. High self-efficacy has been found to regulate stress levels as individuals are likely to feel they have the resources to manage a threat, and so will have less negative thoughts on it (Schönfeld et al., 2016).

2.2.4 Children and Young People's Views about School

More specifically, researchers have explored children and young people's views about school. The Children's Society (2021) asked individuals aged between 10 to 17 about different life domains (e.g., home, family, appearance, school, friends, health). Overall, they found that results were similar to previous years and generally, most were happy with family, home and health. However, a larger proportion of children and young people scored 'school' as below the mid-point compared to other aspects of life. The authors reported that this suggests that more children and young people are unhappy with school.

Recent international research has explored issues of anxiety for children and young people. The Programme for International Student Assessments (PISA) looked at students' feelings of anxiety related to school work (Organisation for Economic Co-operation and Development, OECD, 2017). Compared to the average across countries (55%), more UK students (72%) felt anxious about exams even if they were well prepared. Furthermore, compared to the average (37%), more UK students (52%) felt tense whilst studying. UK students were in line with average in terms of worrying about poor grades. A further PISA report found that students in high achieving countries such as the UK had lower levels of belief in their own academic ability which suggests they have low levels of self-efficacy (OECD, 2019). It must be noted

that these results are based upon the responses of 15 year olds and so there may be variations across ages. Furthermore, whilst this data was gathered pre-pandemic, as reports have suggested, results about happiness in different aspects of life have largely been similar. Therefore, there is evidence to suggest that there is negative affect and increased anxiety associated with testing, exams and preparation which should be further explored.

2.3 Children and Young People with Learning Difficulties

2.3.1 Learning Disability, Learning Difficulty or Intellectual Disability?

There are different terms used to describe individuals who struggle with learning. As such, it can be quite difficult to know which term is appropriate to use and whether there are differences between each. Generally, in England, health and social care use the term 'learning disability'. The Department for Health and Social Care (2001, p.14) has described those with learning disabilities as those with:

- *"A significantly reduced ability to understand new or complex information, to learn new skills (impaired intelligence), with;*
- *A reduced ability to cope independently (impaired social functioning);*
- *Which started before adulthood, with a lasting effect on development".*

In contrast, the Department for Education (DfE) and other educational services tend use the term 'learning difficulty' or 'special educational needs' (DfE & DoH, 2015). For those who have difficulties in 'cognition and learning', they can be differentiated into four categories of learning difficulty: moderate learning difficulties, severe learning difficulties, profound and multiple difficulties and specific learning difficulties. Moderate and severe learning difficulties have been defined as those who require support in all curriculum areas which can include communication and physical (DfE, 2015). For profound and multiple learning

difficulties, individuals have needs which are severe and complex which may include physical disabilities. Those with specific learning difficulties have learning needs which affect a specific part of an individual's learning (e.g., dyslexia, dyscalculia). Therefore, the term 'learning difficulty' may be more useful within education as it differentiates between different levels of needs and as such the appropriate support and funding needed. Furthermore, individuals who have difficulties in learning within England stated that they prefer the term 'learning difficulty' to be used (Goodley, 2011).

On the other hand, international research commonly employ different terms. Other countries such as USA, Australia, Canada, Ireland use the term 'intellectual disability' (Cluley, 2017). More recently, within research and practice, the UK has seen a trend in using 'intellectual disability; as well, although not formally within policy documents (Cluley, 2017). Therefore, there appears to be a silent shift towards the term. Cluley (2017) conducted research into the views of groups of professionals (e.g., psychologists, social care workers, teachers, specialist teachers) about using the term 'intellectual disability' within the UK. Most professional groups saw the term as 'negative' and that it did not reflect the group they are trying to describe. Whilst it is important to explore the views of professionals, a limitation of the study is that they did not explore the views of the individuals themselves and what term they prefer.

As I am conducting my research within an educational context and there is some research to suggest that it is preferred, I will use the term 'learning difficulty' throughout. However, a limitation of the definitions provided by the DfE (2015) are that they are not easily operationalised. In order to identify the specifics of the cognition and learning difficulty, the DfE (2015) states that an assessment process takes place which involves triangulation of various sources of information including, but not limited to, academic information, teacher assessments, pupil and parental views. To support this, local authorities may also use certain

criteria to identify which students could be considered as having a cognition and learning need and thus able to be assessed. This can include their attainment levels compared to other students of the same age (DfE, 2015), although cut-off points will vary between local authorities. Specifically for the local authority in which I recruited my participants, the students who can receive special educational need support for cognition and learning are those working 2+ years below expected levels. As such, to easily identify those who could be considered as having a cognition and learning difficulty, I used this criterion for my study too.

2.3.2 Foundation Skills for Taking Tests - Reading Comprehension and Writing Difficulties

For students with learning difficulties, specifically in relation to cognition and learning, they may have difficulties in the foundation skills for test-taking. For example, they can have reading comprehension and writing difficulties, which will be discussed further below.

Individuals with learning difficulties can struggle with reading comprehension (Solis et al., 2012). Reading comprehension is an important skill which is where an individual constructs meaning from written text (Graham & Bellert, 2005). It is also a multi-layered process which requires an individual to be motivated to read the text; recognise, decode, pronounce and know the meaning of the words. Reading comprehension affects all subject areas, for example, in order to solve maths word problems, an individual needs to understand what it means in order identify the correct mathematical operations to use (Vilenius-Tuohimaa et al., 2008). Research suggests that students with learning difficulties struggle with reading comprehension because they have difficulties with working memory which impact their ability to decode words (Whitbread et al., 2021). In order to be able to decode words, students need to be able to associate the letter or letter combinations with the correct sound and to hold these in their working memory to sound out the word.

Linked to the area of reading comprehension is vocabulary knowledge. Vocabulary knowledge is important because it is linked to the understanding of subject-based content and subsequently academic attainment (Beach et al., 2015). Beck et al., (2013) describe a three tiers framework for vocabulary words:

- *Tier 1* – Basic words which appears in every-day conversations that children are readily exposed to (e.g., girl, cat, warm).
- *Tier 2* – Academic words used by mature language users which can occur across different domains (e.g. examine, retrospect). They tend to be used in written texts rather than in every-day conversations. They also require different contexts and examples to fully explain the meaning due to its nuances. However, they can also be refined labels of concepts which children are familiar with.
- *Tier 3* – Academic words which are domain-specific (e.g. photosynthesis).

As tier 3 words are domain-specific, they tend to be explicitly taught, as and when needed by subject teachers (Beach et al, 2015). On the other hand, tier 2 words are important to be taught because they are vital for understanding text and they can add depth and richness to an individual's vocabulary (Nisbet, 2010). Also, the words are important for helping students to access and understand academic content and as such test and exam questions (Bauman & Graves, 2010). However, tier 2 words may not necessarily be specifically taught by teachers because they occur across domains and are generally acquired through further reading. For students with learning difficulties, if they are not explicitly taught these words, they will struggle to be able to teach themselves unlike their peers. This is because those with learning difficulties do not always have the extended background knowledge or contextual understanding which helps readers to independently establish the definitions of new words

(Wooley, 2007). Therefore, unless explicitly taught, they may further struggle to understand what they are reading

Another area which students with learning difficulties may struggle with is writing. Similarly to reading, writing is complex and requires multiple skills. Firstly, an individual is required to pay attention, to have working memory and to be able to read (O'Rourke et al., 2018). They then need to generate their ideas into text form and to be able to transcribe this down. As mentioned previously, students with learning difficulties can struggle with working memory and so writing will be impacted because it requires the use of the above various cognitive processes (O'Rourke et al., 2018). As they need time to process all of these areas, it will impact on the speed at which they are writing. They may also struggle with spelling due to difficulties with phonological awareness (i.e., sound structure of words) (Bailey et al., 2021). Similarly, if they are using more processing memory to attend to these lower order skills such as spelling, it could interfere with higher order skills such as generation of ideas (Graham, 1999). Therefore, this will impact on the writing ability of students with learning difficulties.

2.3.3 Students with Learning Difficulties and Mental Health

Research has found that those with learning difficulties are more likely to have mental health difficulties compared to those without learning difficulties. NHS Digital (2018) found that children and young people aged between 5-19 years, with learning difficulties (36%) were four times more likely to have a diagnosed mental health condition compared to those without (8%). A more recent survey found that this difference had increased (NHS Digital, 2021). 56.7% of children and young people aged between 6-16 years, with learning difficulties were likely to have a mental condition compared to 12.5% of those without learning difficulties. Whilst there may be limitations in comparing both data sets as the age ranges were different, it does show that children and young people with learning difficulties may be more at risk of

having a mental health condition. Furthermore, Lavis et al. (2019) also found that those with learning difficulties were more likely to have more than one mental health condition which means that their difficulties may be more complex.

However, it would be important to note that the link between mental health and learning difficulties is not necessarily direct. For example, Emerson and Hatton (2007) noted that those with learning difficulties were also 1.5-2 times more likely to experience different social risks. These include living in poverty, having a single parent, being supported by a parent with no educational qualification, living in a household where no adults are in paid employment and being supported by a mother who has mental health difficulties. Therefore, there are risk factors which may indirectly link mental health and learning difficulties together. In addition, recent research by Barnes and Harrison (2017) also found similar results. As such, the link between learning difficulties and mental health is complex and encompasses a number of risk factors.

2.3.4 Students with Learning Difficulties and School-related Worries

More specifically, research has explored the happiness levels of students with learning difficulties (Barnes & Harrison, 2017). When comparing the happiness levels, they found that there was no difference between those with learning difficulties and those without on areas such as family and appearance. The differences in happiness were found in areas such as school and schoolwork, whereby those with learning difficulties felt more unhappy in these areas. These results are similar to the findings from The Children's Society (2021) where overall, children and young people were less happy about school compared to other areas of life. Therefore, the research alludes to mediating school factors which may be linked to the happiness and mental health of those with learning difficulties.

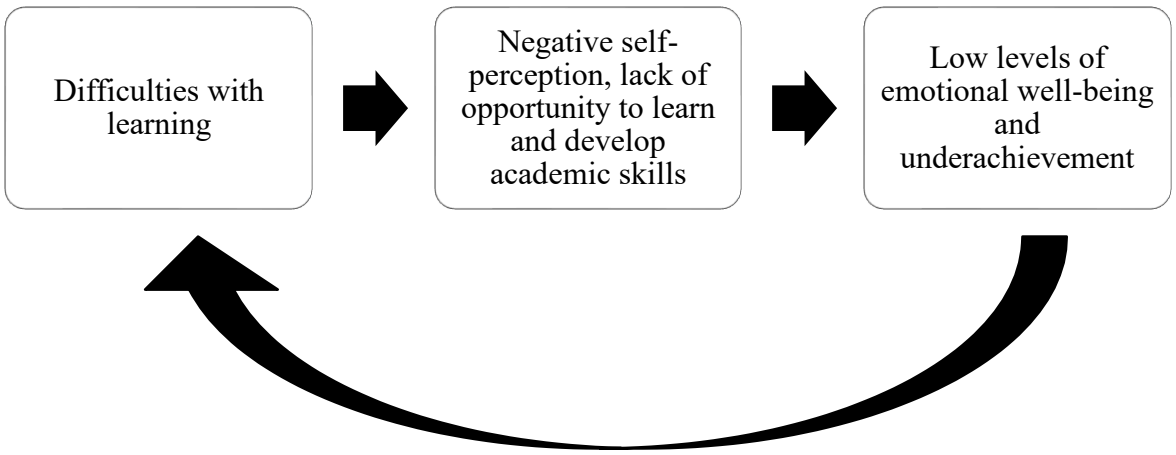
Alesi et al. (2014) found that children aged 8-10 with specific learning difficulties had higher levels of school anxiety and lower levels of academic self-esteem compared to children with no learning difficulties. Other studies exploring subject-specific anxiety also found that those with specific maths and reading learning difficulties were more likely to have anxiety in maths and reading, respectively (Lai et al., 2015; Sainio et al.,2019). However, most of the studies explore specific learning difficulties and there are few studies which explore whether those with general learning difficulties also experience anxiety about school and learning.

Studies have also explored the relationship between academic achievement and learning difficulties. Unsurprisingly, children with learning difficulties had lower levels of academic achievement compared to those without learning difficulties (Sainio et al., 2019). What is important to note is the other factors at play which impact on these areas. When children and young people experience low levels of academic achievement, this can negatively impact on their self-efficacy, namely self-belief in their own ability (Hampton & Mason, 2003; Alesi et al., 2014). In turn, this can lead to further reduction in engagement with learning. This is because when they experience a threat, which is their repeated difficulty in learning, they are more likely to use strategies to protect themselves such as disengagement. When children and young people with learning difficulties disengage with learning, they are more likely to engage in task-irrelevant thinking, become distracted and lose concentration (Alesi et al., 2014). The task-irrelevant thinking and lack of concentration affects information processing and reduced use of meta-cognitive skills. Alesi et al. (2014) called this the 'Matthew effect' whereby those with learning difficulties experience negative self-perception, lack of opportunity to learn and to develop academic skills which exacerbates their underachievement and low levels of emotional well-being (Figure 1). This can become a vicious cycle because

the more they struggle to engage and learn, the more it will impact on their self-efficacy and self-esteem.

Figure 1

'Matthew Effect'



2.4. Academic Testing in England

With regards to the terms, 'tests' and 'exams' have been used synonymously to describe assessment of the progress or attainment of a student in the literature (e.g. Jerrim, 2021). Therefore, I will use tests and exams interchangeably throughout depending on what is used in the cited literature.

Compulsory primary education is split into two stages: Key Stage 1 (ages 5-7) and Key Stage 2 (ages 7-11) (DfE, 2014). Compulsory secondary education is also split into two stages: Key Stage 3 (aged 11-14) and Key Stage 4 (aged 14-16). Within each key stage, the students are taught the national curriculum which is framework of education given by the central government (Hall & Øzerk, 2008). This framework includes subjects which should be taught at each stage.

There are many different types of tests and exams which are used to assess students in England. The DfE (2015) describe three different types of assessment as seen in Table 1.

Table 1

Different Types of Assessments

Assessment Type	**Examples**
1. Day-to-day Formative Assessments	Questions given in class, marking students' work, observations, quizzes
2. In-school Summative Assessments	End of year exams, end of topic tests
3. National Standardised Summative Assessments	Key Stage 2 National Curriculum Tests

In terms of in-school summative assessments with students, the DfE has implemented the Assessment without Levels approach which focuses on high-quality assessments to shape and inform the learning and teaching of students rather than for data collection (DfE, 2015). Whilst there is no set number on the frequency of in-school testing, the DfE suggested that schools can complete summative assessments at the end of term/year or at the end of a topic unit.

Moreover, at key points within the key stages, students are tested on the national curriculum. Currently, within primary education, there are multiple tests and assessment of different skills to ascertain progress and attainment. Table 2 lists the tests and assessment in primary school. These tests are given through various formats such as electronic or written (DfE, 2021).

Table 2

Current Assessments and Tests in State-funded Primary Schools in England (Roberts, 2020, p. 4).

When?	**What?**
Within the first six weeks of reception entry	Assesses development in mathematics, literacy, communication and development
Reception Class (age 4 or 5)	Early Years Foundation Stage Profile
Year 1 (age 5 or 6)	Phonics screening check (a test of reading ability)

Year 2 (age 6 or 7) – end of Key Stage 1	Key stage 1 national curriculum assessments (SATs) in maths, English reading and writing and science
Year 4 (age 8 or 9)	Multiplication tables check
Year 6 (age 10 or 11) – end of Key Stage 2	National curriculum assessments in maths, English reading and writing, science

Within secondary education, students work towards a national qualification, which are GCSEs, studied and taken in Key Stage 4 (DfE, 2014). Students are required to study core subjects in English literature and language, maths and science. In addition, they are able choose other subjects to study. Assessments are usually in the form of written tests, however, some also include coursework which is completed throughout the year and can include projects, experiments and artwork (DfE, 2014).

As can be seen from the above, testing occurs frequently throughout the academic year. This means that children and young people are continually being assessed and so the impact should be further explored.

2.5 Stress and Anxiety

Stress and anxiety are important to consider as they lay important foundations for test anxiety literature. Therefore, they will be explained below.

2.5.1 Definition and Theory of Stress

Most definitions of psychological stress view it as either a stimulus or a response (Lazarus & Folkman, 1984). When it is seen as a stimulus, the focus is on environmental factors (i.e. the stressors) which cause the stress such as illness, natural disasters. On the other hand, when viewed as a response, it is seen as a state in which a person is under and is a physiological reaction. However, Lazarus and Folkman (1984, p. 21) defined psychological stress as:

"…a relationship between the person and the environment that is appraised by the person as taxing or exceeding his or her resources and endangering his or her well-being".

This definition is based on Lazarus and Folkman's (1984) Transactional Model of Stress and Coping which emphasises on the relationship between the person and the environment and views stress as a dynamic process. Therefore, the individual will view a situation or environment as stressful and will respond by trying to bring this back into equilibrium through their own coping resources. As such, the focus is on the individual's perception and interpretation of the situation or environment which will impact their cognitive, behavioural, affective or physiological responses. Lazarus and Folkman (1984) described three types of appraisals which leads to a stress response:

- *Primary appraisal* whereby the individual decides whether an event or environment is a threat.
- *Secondary appraisal* which is where the individual evaluates their coping resources in which to manage these stressors.
- *Reappraisal* which is an ongoing and dynamic process of appraising their coping resources and the stressors.

There have been many other interpretations and variations of the Transactional Model of Stress and Coping. However, most models will include three elements: *antecedents, mediators and outcomes* (Deary et al., 1996).

- A*ntecedents* focus on the environment (e.g. testing environment, social support) and personal variables (e.g. personality characteristics, self-esteem, academic self-efficacy).
- *Mediators* influence the stress process between the antecedents and outcomes. These are psychological processes such as appraisal of the stressor and coping resources.

- *Outcomes* of stress will range from physiological and psychological, depending on the individual's own *antecedents* and *mediating* factors.

Therefore, transactional models of stress consider internal and external factors which could influence the stress response and as such can offer a comprehensive model.

2.5.2 Definition and Theory of Anxiety

Anxiety can be considered to be a reaction to a stressor or threat. It is a complex emotion which has been characterised by:

"*…fear and apprehension, a nagging sense of worry and anxiousness, coupled with a sense of doubt and vulnerability about future events*" and *"…intensified energy level manifested in a fast heart rate, muscle tension and bowel function*" (Kreitler, 2018, p.1500).

Spielberger et al. (1971) made further distinctions by noting differences between *state* and *trait* anxiety. *State* anxiety is a fluctuating emotional condition which occurs depending on the perception of the environment and situation. *Trait* anxiety is considered to be a stable characteristic of an individual. However, it can be difficult to study as researchers have found there are discrepancies in the conceptualisation of both forms of anxiety (Zeidner, 1998). Furthermore, this also raises questions as to whether trait and state anxiety are related.

Following Spielberger's work, Endler (1983, as cited in Endler & Kocovski, 2001) developed the Multidimensional Interactional Model of Anxiety. He explained that anxiety is dependent upon the interaction between the individual and environment. For example, state anxiety would increase when an individual with high trait anxiety experiences a situation which they would perceive threatening or stressful. The model also posits that state and trait anxiety are multi-dimensional. State anxiety consists of cognitive-worry and autonomic emotional; and

trait anxiety consists of social evaluation, physical danger, daily routines and others (Endler & Kocovski, 2001).

The Multidimensional Interactional Model of Anxiety (Endler. 1983, as cited in Endler & Kocovski, 2001) is similar to the Transactional Process Model of Stress and Coping (Lazarus & Folkman, 1984) as both see the importance of the environment and individual characteristics. That is, for an individual to experience test anxiety, there needs to be the predisposition of the characteristic as well as the "right" situational conditions (e.g., perception of threat in the environment, coping mechanisms). They differ in that the Transactional Process Model of Stress specifically describes three types of appraisals that individuals engage in to have a stress response and so the mechanisms are clearer.

2.6 Definition and Terms for Test Anxiety

'Test anxiety' and 'exam stress' have been used interchangeably in the literature. However, Putwain (2007) noted that the advantage of using the term 'anxiety' rather than 'stress' is that 'stress' can be considered as the stimulus or response. This can cause conceptual confusion. For 'anxiety', this is usually a response or a reaction to a stressor. As such, as I am exploring test anxiety as a response, this is the term that I will use throughout.

Test anxiety has been defined as "the set of phenomenological, physiological and behavioural responses that accompany concern about possible negative consequences or failure on an exam or a similar evaluative situation" (Sieber et al., 1977, p. 174). This means that when an individual faces a situation where they are being evaluated, this can be considered a threat. They may then anticipate failure and have lower levels of self-belief and higher perceptions of threat (Zeidner, 1998). However, even when considering the above definition, there are still difficulties in conceptualising what test anxiety is.

Researchers started to consider what components form test anxiety. Initially, researchers suggested that test anxiety had two facets: *emotionality* and *worry* (Liebert & Morris, 1967). Emotionality are physiological responses and worry is the individual's concerns about failure. Other researchers described test anxiety as having three facets: *cognitive, affective* and *behavioural* (Zeidner, 1998).

- *Cognitive facet* includes any thoughts such as worry or task-irrelevant thinking
- *Affective facet* includes physiological reactions
- *Behavioural facet* includes avoidance behaviours or difficulties with revision and study skills

Individuals will experience these facets to different degrees depending on the situation, level of anxiety and causes. Considering test anxiety as having different facets is helpful because it breaks down the concept so that it can be measured or researched more easily.

As with Spielberger et al's (1971) definition of anxiety, test anxiety has also been broken down into state and trait. Trait test anxiety is considered to be a personality trait, that is a stable difference in perception of the degree to which tests are threatening (Putwain, 2008a). On the other hand, state test anxiety is the degree that an individual experiences immediate anxiety in assessment situations. Putwain (2008a) has positioned trait test anxiety as one of the personality variables which impact on state test anxiety levels, along with other factors such as thoughts and behaviours. Feelings of state test anxiety may be exacerbated by an individual's predisposition to test anxiety, that is having higher levels of trait test anxiety. It may also be the case that individuals with low trait test anxiety can still experience test anxiety if they perceive an exam or test to be a threat due to other factors such as negative self-thoughts, test format or study habits. Therefore, it is likely that anyone can experience

state test anxiety, where multiple factors can impact the levels. As such, it would be important to explore students' views of test anxiety regardless of whether they have high trait test anxiety or not.

2.7 Integrative Transactional Model of Test Anxiety

The Integrative Transactional Model of Test Anxiety developed by Zeidner (1998) is a framework which considers test anxiety as a dynamic process. The model incorporates many elements as can been seen in Table 3. Some of the elements will be discussed later as part of the exploration of test anxiety research

Table 3

Description of the Elements of Integrative Transactional Model of Test Anxiety (Zeidner, 1998).

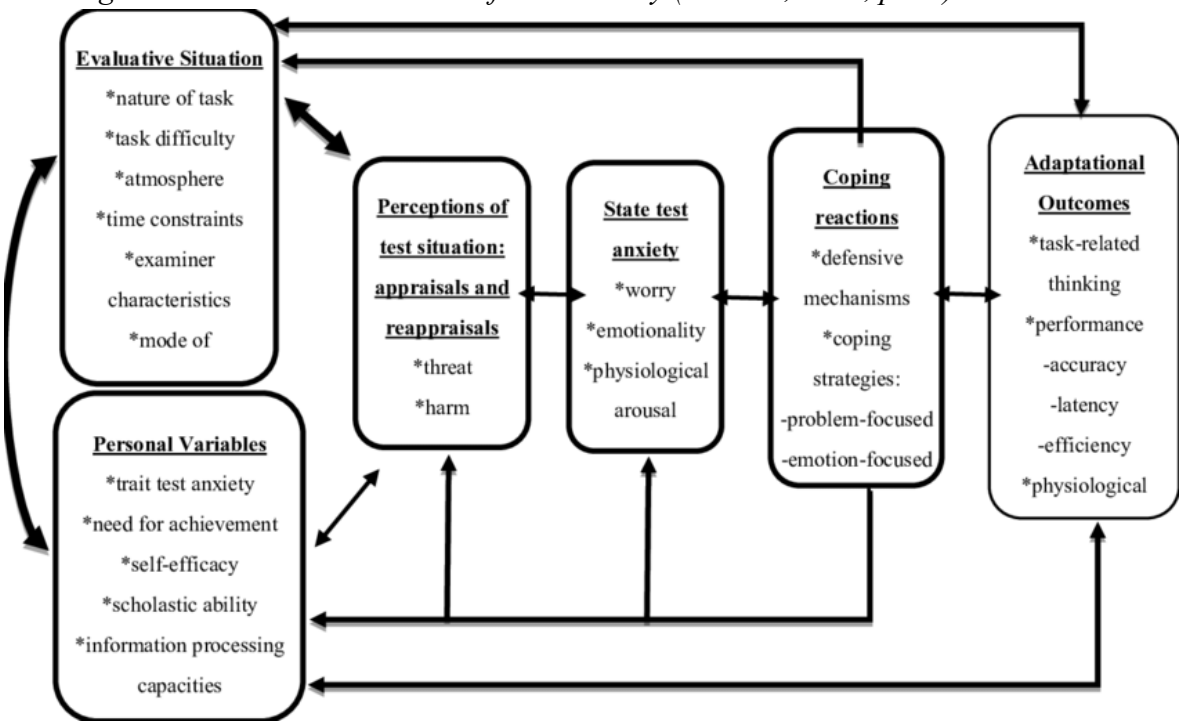
Element	**Description**
Evaluative situation	The evaluative situation has various contextual factors such as test characteristics, task difficulty, time constraints etc.
Personal variables	Predisposing characteristics of an individual e.g. trait anxiety, self-efficacy.
Perception of test situation	The meaning an individual places on a test situation is likely to impact on their subsequent emotions and behaviour. Whether they see the situation as anxiety provoking will depend on whether they appraise it to be threatening. This depends on many factors such past experiences, personal variables and the situation.
State test anxiety	The emotional reaction when perceiving an evaluative situation as threatening. The duration and intensity will depend on factors such as their perceptions of the situation and individual dispositions of trait test anxiety.
Coping reaction	An individual's cognitive and behavioural methods of managing the stressful responses and emotions.
Adaptational outcomes	The consequences of coping reactions, personality variables and the evaluative in relation to test and exams.

This framework suggests that all of the key elements have a reciprocal interaction when an individual experiences an evaluative situation (see Figure 2). An individual will be impacted by the evaluative situation, but they are also responding to the situation. The process is dynamic and the individual and situation are interacting continuously. This idea is very

similar to Endler's (1983, as cited in Endler & Kocovski, 2001) Multidimensional Interactional Model of Anxiety and the Transactional Model of Stress and Coping (e.g. Deary et al., 1996) as they both posit that that there is an interaction between personality variables, situational conditions and other mediating factors which lead to the respective phenomena occurring. Furthermore, based on this model, an individual does not necessarily need to have trait test anxiety in order to experience test anxiety as this can also come from state test anxiety.

Figure 2:

Integrative Transactional Model of Test Anxiety (Zeidner, 1998, p. 19).



A strength of Zeidner's (1998) framework is that the foundations are very much in line with previous models of stress and anxiety, as seen above. It is also supported by Putwain's (2008a) position where trait test anxiety is considered as a personality characteristic which can impact on state test anxiety levels. Furthermore, another strength of the model is that

considers all factors or elements which could lead to an individual experiencing test anxiety. It acknowledges that there are some personality characteristics which may predispose an individual to be more test anxious, but also considers the external or situational factors which may exacerbate those feelings or minimise them.

A limitation of this model is that many of the key elements mentioned in the framework are general and can encompass many different factors as seen in Figure 2. Although the elements have been described, they have not been conceptualised which means that it would be open to interpretation when researchers study the framework. Additionally, as the framework is so complex, it would be very difficult to further study it in its entirety because there are so many factors at play. Researchers would need to study single elements or a small number of them at a time. The research exploring this model is largely quantitative with very limited examples of qualitative research exploring how individuals feel or think about testing.

2.8 Prevalence of Test Anxiety

There is a growing body of international research exploring test anxiety. Researchers have attempted to understand the prevalence of test anxiety amongst students within the UK. PISA conducted a survey and found that 72% of UK students felt anxious about exams even if they were well prepared, which was higher than the average (OECD, 2017). Additionally, a higher than average number of UK students (52%) felt tense whilst studying compared to the other countries (37%). However, this report did not use a formal measure of test anxiety. Putwain and Daly (2014) explored the proportion of students aged between 14-16, self-reporting high, moderate and low-test anxiety in the UK. 16.4% self-reported as highly test anxious, 52.7% self-reported as moderately test anxious and 30.9% self-reported as low test anxious. In comparison to the report by PISA, this is significantly lower. The difference may be because

test anxiety is on a continuum and not all students would fall under the highly test anxious category. However, they may still experience test anxiety but to a lesser degree.

Putwain and Daly (2014) also explored gender differences in test anxiety. A higher proportion of female students (22.5%) reported themselves as highly test anxious compared to male students (10.3%). Similarly, an international review by von der Embse et al. (2018) also found that female students were more likely to report higher levels of test anxiety compared to male students. This difference increased from primary grades until secondary grades but decreased for those in post-secondary studies. There is not a clear reason why there is a gender difference in test anxiety. It may be that, in general, females are more likely to have a probable mental health difficulty (e.g. NHS Digital, 2020) compared to males and this also translates into exam-related issues.

In terms of children and young people with learning difficulties, there does not appear to be any studies which specifically explore the prevalence of test anxiety in this demographic in the UK. However, international studies have looked at the differences in test anxiety amongst students with and without learning difficulties. Fong and Soni (2022) conducted a systematic review of studies exploring test anxiety amongst those with learning difficulties. Amongst six studies, four found that university students and secondary aged students with specific learning difficulties experienced significantly higher levels of test anxiety compared to those without learning difficulties. However, Lewandowski et al. (2016) and Weprin (1999) found no significant difference. Lewandowski et al. (2016) measured timed test anxiety and it may be that this is anxiety provoking for all students. Secondly, the students in the study by Weprin (1999) were educated in a specialist setting and it may be that they received support for their learning difficulty which alleviated any concerns around test anxiety.

In summary, it is clear that children and young people are frequently assessed in English schools. As such, there also appears to be evidence of increasing levels of test anxiety amongst students (OECD, 2017). Some research also suggests that this is more prevalent amongst those with learning difficulties (Fong & Soni, 2022). Therefore, it is important to explore the views of students with learning difficulties around this topic area.

2.9 Effects of Test Anxiety on Students

It is also important to explore the effects and impact of test anxiety on students. I will cover two areas: academic performance and subjective well-being.

2.9.1 Effects on Academic Performance

Researchers in the UK have explored the effects of test anxiety on academic performance. Putwain (2008a) found that GCSE students who self-reported higher levels of anxiety were more likely to have lower GCSE grades. Although the correlations were weak, they were still significantly related. These results are similar to the international literature, where von der Embse et al. (2018) found negative relationships between test anxiety and academic performance in their meta-analysis. There are also similar results for students with learning difficulties in secondary school (Peleg, 2009; Lewandowski et al., 2016). Those with higher test anxiety also seemed to score lower on tests or have lower academic performance. Whilst many of these relationships tend to be weak or moderate, there is a general consistent pattern that suggests test anxiety can have a negative effect on students' achievement.

Test anxiety may impact academic performance because of cognitive interference. The Cognitive-Attentional (Interference) Model suggests that when individuals are highly anxious, they start engaging in self-focus or cognitive worry and this causes their attention to be diverted (Wine, 1971). To support this, Coy et al. (2011) found that higher off-task negative

dialogues and cognitive interference was positively related with test anxiety. Similarly, Beilock (2008) found that when individuals are in high stress situations (e.g. exams), they are more likely to worry which will compete for working memory resources used for performance. Therefore, if an individual perceives an assessment situation as a threat, they may engage in task-irrelevant thoughts which will impact on information retrieval.

However, it must be noted that some studies have found that test anxiety was positively correlated with academic achievement, that is the higher the level of test anxiety, the better the academic performance (Sung et al., 2016). Students who experience anxiety can be more motivated to do well and as such, will concentrate more which can improve performance. This study used participants who were about to take a high-stake exam and so the authors suggest that the students' motivation to do well may have overridden any cognitive interference. Therefore, the impact of test anxiety on academic performance may not be straightforward, as there could be many other factors mediating that relationship.

2.9.2 Relationship with Mental Health *and Subjective Well-being*

As mentioned previously, 'good' mental health can be constituted by an absence of mental illness as well as having the strategies to manage negative affect (e.g. sadness, anger) in order to maintain an equilibrium (Galderisi et al., 2015). Research showed that anxiety was related to anxiety and depressive symptoms in children and young people (Weems et al., 2010). The authors suggest that those who are test anxious may experience more of these symptoms compared to those who are less test anxious. Furthermore, Thomas et al. (2017) found that students with higher levels of test anxiety tended to engage in higher levels of avoidant coping strategies, meaning this prevents them from processing academic information. This can further negatively impact their academic progress which leads to more anxiety around

tests. Therefore, there appears to be a clear relationship with mental health (i.e., mental illness, coping strategies) and test anxiety. However, these studies only show a correlation and the direction of causality is not clear. That is, it is not clear whether mental health difficulties promotes test anxiety or if test anxiety causes an individual to have further mental health difficulties.

However, those with 'good' mental health can also experience test anxiety. Even though students may have concerns and worry about tests, this does not necessarily mean that they will also have mental ill health. For example, Chamberlain et al. (2011) found that students reported finding the anxiety useful and helped with exam performance because it prompted them to use other strategies such as putting in more effort. This helped to reduce and prevent further worries about tests. Test anxiety is not dichotomous and can be experienced at varying degrees (Putwain, 2008b). Therefore, for some individuals, test anxiety may relate to 'poor' mental health but for others, it could be an experience of negative affect which they manage through coping strategies to maintain equilibrium.

Linked closely to mental health is the idea of subjective well-being. Whilst there are many variations on the definition of 'subjective well-being', I use the definition described by Putwain et al. (2021, p.1151). They describe 'subjective well-being' as the "presence of happiness, satisfaction, and positive emotions". This can be about an individual's life in general or specific domains such as school. Research looking at subjective school well-being found that it was negatively related to test anxiety in secondary students in the UK (Putwain et al., 2020). That is, higher test anxiety was related to lower levels of happiness, satisfaction and positive emotions around school. A longitudinal study on German high school students by Steinmayr et al. (2016) found that the cognitive component of test anxiety predicted lower levels of subjective well-being (positive mood and life satisfaction) after 12 months.

Therefore, there does seem to be a prolonged effect of test anxiety on an individual's well-being. There is also little research on test anxiety and its effect on well-being for students with learning difficulties, however, it can be assumed that there would be an impact as studies have found they can experience anxiety around certain subjects related to their learning difficulty (Lai et al., 2015; Sainio et al.,2019).

Putwain et al. (2021) suggest that higher test anxiety impacts well-being directly as it causes individuals to worry about exams more. Furthermore, it also indirectly impacts well-being as individuals associate their negative feelings around tests with other aspects of school. For example, it may lower their confidence in their own ability in general. This is very similar to the previous findings where students with and without learning difficulties cited schoolwork and tests as the areas they were most worried about (OECD, 2017; Barnes & Harrison, 2017). Students with high test anxiety may also worry about daily schoolwork which will further affect their general well-being.

Roome and Soan (2019) conducted a qualitative study to explore students' views of GCSE exams. Some of the participants reported 'negative' feelings associated with taking tests, for example feeling 'depressed' and the 'stress'. These 'negative feelings' also appeared to be related to longer term consequences as the participants reported it impacting on their self-beliefs and confidence when taking future exams. However, not all studies have found students reporting negative affect in relation to exams. Chamberlain et al. (2011) found that some students reported that having some degree of stress was helpful when taking the exams. They shared how it gives them a sense of motivation, adrenaline and also got them into 'the zone' in relation to taking tests. One participant also reported not feeling any worry or stress about taking tests. Therefore, depending on individual differences, tests can impact on well-being at varying levels.

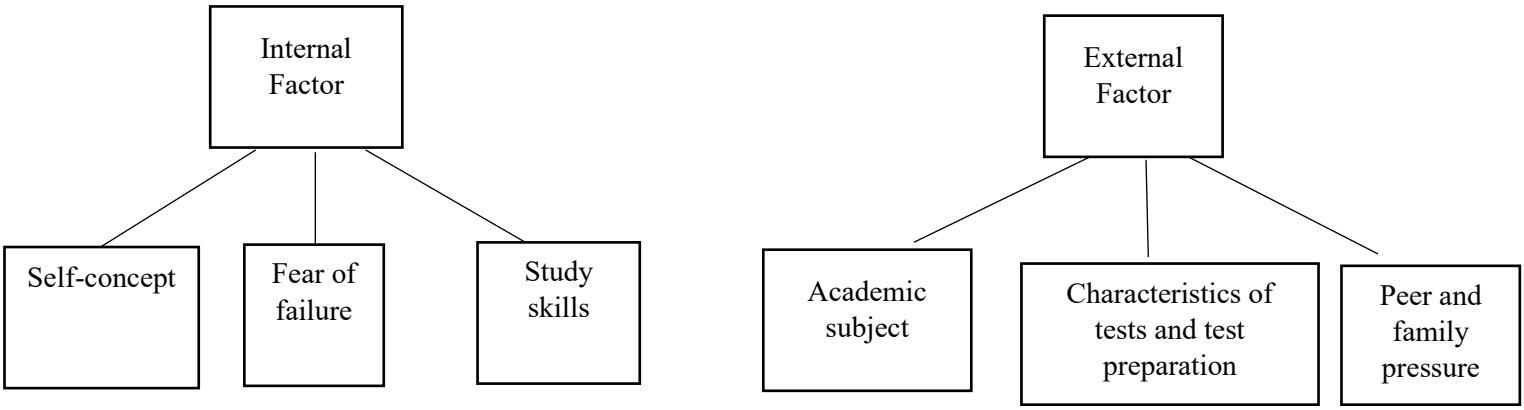
2.10 Correlates of Test Anxiety

There are a variety of internal and external factors which have been associated with test anxiety for students. For example, von der Embse et al. (2018) conducted a meta-analysis of test anxiety studies over 30 years and found many related personal correlates, including self-concept (i.e., self-esteem, self-efficacy, self-regulation, academic confidence); motivation; self-regulatory learning strategies, coping skills, achievement goals; personality traits. Demographic correlates include gender; learning difficulties; age and ethnicity. Other external factors include test characteristics (Putwain, 2008b); academic subject (Everson et al., 1993); and social pressures (Roome & Soan, 2019).

For internal factors, I cover self-concept; fear of failure and study skills. For external factors, these will include academic subject; characteristics of tests and test preparation and peer and family pressure (see Figure 3). These are covered due to the relevance to my data set, and it would have been difficult to focus on all correlates.

Figure 3

Internal and External Factors Covered



2.10.1 Internal Factor: Self-concept

All individuals have a self-concept which are formed by their own experiences and interpretations (Valentine et al., 2004). These can include different areas such as self-efficacy, self-esteem and perceived control, all of which have been found to be related to test anxiety which will be further explored below.

The meta-analysis conducted by von der Embse et al. (2018) found that self-efficacy and self-esteem consistently had the strongest negative relationship with test anxiety. That is, low self-efficacy and low self-esteem was related to higher levels of test anxiety. Peleg (2009) also found similar patterns amongst students with learning difficulties, whereby there was a strong negative relationship between self-esteem and test anxiety. Although the studies cited were conducted outside of the UK, they present important relationships to be explored further.

In addition to self-esteem and self-efficacy, researchers have found that perceived control can also impact on levels of test anxiety. Locus of control is the degree to which someone believes an outcome is dependent on external factors beyond their control or whether it is due to factors within their control such as behaviour and skill (Rotter, 1990). Stevens (2000) found that university students with learning difficulties who had higher external perceived control, had higher levels of test anxiety. This means that those who thought that getting good grades was out of their control, tended to have higher test anxiety. Putwain and Aveyard (2018) also found that students taking GCSEs who had low perceived control were more likely to experience the worry component of test anxiety (i.e. concern about failure).

The self-referent executive function theory has been used to explain some of these ideas (Zeidner & Matthews, 2005). Individuals have long-term knowledge about themselves and so they will experience worry when they access negative self-beliefs. As a result, they may

choose ineffective coping strategies (e.g. avoidance of academic work) which can further lead to test anxiety. Therefore, it is likely that negative self-beliefs lead to test anxiety through the choice of coping strategies used to manage that belief.

2.10.2 Internal Factor: Fear of Failure

Closely linked to self-esteem and self-efficacy is the fear of failure. Students worry about taking tests because of the high stakes associated with them (Putwain, 2008b). For example, many students were highly aware of the consequences of not doing well in an exam (Chamberlain et al., 2011). The students felt their future depended on how they performed within the exam which could further impact on their future plans, whether that was for further study or for employment. There can also be feelings of shame related to failure. McGregor and Elliot (2005) found that university students who self-reported high fear of failure also reported greater shame, when they felt they had failed. This may because positive regard from significant others (e.g. parents, peers) can be dependent on success and so when failure occurs, this leads to feeling of shame and avoidance. Therefore, fear of failure may be related to the pressure of knowing their future may depend on results and potential feelings of rejection.

However, what students deemed as a 'fail' was subjective and dependent on their own expectations. For example, what is considered as a 'pass' for one student may not be the same for another. Putwain (2009) found that some students reported feeling like they had not done well despite getting four grade A's and two grade B's.

Researchers have explored the use of fear appeals which are encouragements that may be given by teachers which highlight the negative consequences of not engaging in a particular behaviour (Putwain et al., 2016). Teachers may use fear appeals to motivate students by

noting the consequences of failure in exams to encourage them to engage in behaviours which avoid such consequences. Putwain and Symes (2014) found that some students will respond as intended by the teachers by engaging with revision and further study. However, for some students, this increased their worry and anxiety about taking tests and feelings of failure (Putwain and Symes, 2011).

2.10.3 Internal Factor: Study Skills

Another internal factor which has been found to be related to test anxiety is study habits. Researchers have hypothesised that students who lack effective study skills and test-taking skills are likely to also have test anxiety (Preiss et al., 2009). The Study-skills Deficit Model suggest that highly anxious individuals struggle with study skills which impacts on whether material is encoded adequately (Naveh-Benjamin et al., 1981). This then affects the retrieval of information during tests which impacts on their performance.

Some meta-analytic reviews and studies have supported this idea. For example, study skills and habits (e.g., use of time, tendency to study often) were found to be negatively related to test anxiety (Preiss et al. 2009; Duraku, 2017). That is, students who had poorer study skills tended to have higher levels of test anxiety. Swanson and Howell (1996) also found similar results amongst high school students with learning difficulties. However, when they conducted further analyses, results suggested that study habits accounted for only 6% of the variance in test anxiety. Meta-analyses exploring the effectiveness of interventions in supporting test anxiety have also found that study skills training is most effective when accompanied with behavioural interventions (Symes & Putwain, 2020). Therefore, although study skills are a factor associated with test anxiety, it is likely to be interlinked with other factors.

2.10.4 External Factor: Academic Subject

Some studies have found that the subject in which the students are taking the test affect whether they are anxious. Early researchers explored this idea across four subjects: English, maths, physical science and social science, for university student (Everson et al., 1993). They found that students had higher levels of test anxiety for subjects such as maths and physical science. They suggested this was because the participants perceived these subjects as more complicated and difficult to master, and so had higher levels of test anxiety in these subjects. A limitation of this study was that the differences were found between participants. As such, there may have been other individual differences not accounted for which could have impacted test anxiety levels.

Other qualitative research also had similar findings. Putwain (2009) found that worry concerning exams was subject-specific, in that it was dependent on the student's perception of their ability in that subject. The perception of their ability was linked to whether they understood the subject material, homework and revision. For example, one participant was more worried about geography than maths tests because they struggled to remember the technical terms. Similarly, Roome and Soan (2019) found that when students had an interest in the subject and felt confident about it, they wanted to revise for it. This also helped to relieve any stress and worry concerning the exam.

2.10.5 External Factor: Characteristics of Tests and Test Preparation

Different characteristics of tests have been associated with higher levels of test anxiety. Firstly, research has explored whether high stake exams influence test anxiety. High stake exams can include any assessments which affect further studies or employments (e.g. GCSEs) compared with low stake tests which do not (e.g. mock exams) (Putwain, 2008b). Segool et al. (2013) found that primary aged children had higher levels of anxiety when taking high

stake tests compared to lower stake tests. However, results are not clear cut as Putwain (2008b) found that GCSE students had the highest levels of test anxiety when taking the mock exams which were low stake. He suggested that the reason for this is because mock GCSE exams may be lengthier, and the format of questions can be different from previous high stake exams (e.g. SATs). Therefore, this unfamiliarity leads to higher levels of test anxiety compared to when taking the 'real' exams as they are not used to the process and format. Therefore, the status of exams alongside other factors such as familiarity of the testing situation and format can impact on test anxiety.

The timed element of an exam has also been found to be linked with test anxiety. For example, Stevens (2000) found that students with learning difficulties reported being timed as one of the more anxiety provoking aspects of exams. Lewandowski et al. (2016) also compared timed test anxiety between those with and without learning difficulties and found that there was no difference. It is likely that regardless of learning difficulty, the timed element of a test is likely to impact on anxiety. Qualitative research provided more insight into the potential reasons for this. Students reported feeling that the timed pressure of exams increased their anxiety as they felt worried that they were unable to complete it all on time (Chamberlain et al., 2011). Some also felt that the timed pressure prevented them from showing their true ability.

Chamberlain et al. (2011) explored A-level students' experiences of tests and they found that exam preparation impacted their levels of anxiety. The students described how revision was inherently stressful but the combination of revision, preparing for mocks and learning new content increased the weight of the workload, leading to more anxiety. Revision also impacted on their sleep and students felt guilty when they were not revising. This anxiety increased when parents perceived they were not revising or if they had unsuitable home conditions for

revision. Therefore, it is clear that in addition to the actual exams, revision and preparing for exams can also contribute to levels of anxiety.

2.10.6 External Factor: Peer and Family Pressure

Pressure from family and peers were also important factors in relation to test anxiety. Putwain et al. (2010) found that parental pressure was related to the worry component of test anxiety and task-irrelevant thinking. Roome and Soan (2019) also reported that students taking GCSEs felt parents added to the stress during exams. It is likely that parental pressure is derived from the expectations that parents place on their children to do well (Peleg et al., 2016). Additionally, some may feel that their conditions of acceptance are based upon doing well in exams as opposed to how much effort they put in which further increases pressure. (Putwain et al., 2010).

The source of pressure can also come from peers. Whilst peers may help to motivate some students, it could also lead to increased anxiety due to the comparisons they make between each other (Roome & Soan, 2019). The students in the study by Chamberlain et al. (2011) discussed in particular about the period of time just before taking the exams. This 'waiting time' meant that students had the opportunity to talk about their revision and what topics they know and did not know, which further exacerbated anxiety levels prior to the exams. Whilst much of the pressure from family and peers may not be intended, the expectations and comparison made the students feel more worried about the exams they were taking.

2.11 Coping Strategies

2.11.1 Support from Parents and Teachers

A key factor which has been reported to be help with test anxiety is support from parents and teachers. Custodero (2013) found that perception of social support received was significantly

lower for those with learning difficulties and high test anxiety. More specifically, Yildirim et al. (2008) also found that perceptions of teacher support significantly predicted test anxiety, that is those who report higher levels of support had lower levels of anxiety. When asked about the support they received, students explained how teachers made time to explain the work or reassured them to not worry (Roome & Soan, 2019). Similar to this, the students reported that they felt supported by their parents when they had realistic expectations and put less pressure on them with regards to tests (Roome & Soan, 2019). When parents are able to give their children more praise and encouragement, focusing on successes rather than failures, it is likely that they will feel that there is less pressure to fulfil parents' expectations to do well (Oishi & Sullivan, 2005). In turn, they may experience less worry in exams.

However, researchers explored parental perceived academic conditional regard (i.e. parents providing more affection or attention when their children achieve academically or study harder) and contingent self-esteem (i.e. self-esteem related to external factors or domains such as physical appearance or approval) (Otterpohl et al., 2019). They found that perceived academic conditional regard was related to higher contingent self-esteem and in turn related to higher test anxiety. Students whose self-esteem is dependent on academic achievement could have higher levels of test anxiety, which is further exacerbated by parental attention following academic success. As such, support from parents could be perceived as increased parental pressure which has a negative impact on test anxiety, as mentioned previously. Therefore, depending on how parental influence is perceived, it can be seen as support, pressure or a combination of both.

2.11.2 Avoidance and Distraction Strategies

Avoidance or distraction are strategies which may be used by individuals in order to cope. Avoidant coping is when an individual engages in different behaviour or thoughts which

avoids the stressor (von der Embse et al., 2018). Data from a meta-analysis found that avoidant coping was positively related to test anxiety which means that those who are test anxious are more likely to avoid stressors (von der Embse et al., 2018). However, an experimental study comparing different forms of coping strategies, found that a modification of cognitive appraisals intervention did not have an advantage over distraction in reducing test anxiety (Krispenz & Dickhäuser. 2018) That is, distraction was also able to reduce the worry component of test anxiety as well as modification of cognitive appraisals. A reason for this difference in findings could be because there are different forms of avoidance or distraction strategies. For example, some individuals may pursue leisure activities or engage in relaxing activities as a form of distraction which may help to reduce anxiety and depression (Fullana et al., 2020). Those who take part in leisure activities as a distraction may reap the benefits for their mental health as it can make their life more diverse and provides a better school/life balance (Lee et al., 2012). Another reason could be differences in student characteristics. For example, students with the evaluative concern perfectionist characteristic (i,e. those that feel others set unrealistic standards and doubt themselves) had higher test anxiety, which was mediated by avoidant coping (Weiner & Carton, 2012). This means that students who doubted themselves and felt there were unrealistic expectations on them engaged in more avoidant coping which led to higher levels of anxiety. It may be that the distraction of irrelevant cognitive thoughts about what others think about them had the negative impact. Therefore, avoidant and distraction strategies may have positive and negative benefits depending on the characteristic of an individual and what they are doing when they are distracted.

2.12 Conclusion

In the literature review, I discussed the general trends and research of mental health in children and young people. It is clear that there is an increase in children and young people

experiencing poor mental health, and this has further risen since the COVID-19 pandemic (Levita et al., 2020). When explored more specifically, reports have found that the main concerns are around school (The Children's Society, 2021). Furthermore, compared to the average, students in the UK tend to feel more anxious about exams and felt tense whilst studying (OECD, 2019). Therefore, worries concerning testing and exams should be explored further.

Within the literature review, I also explored the mental health of children and young people with learning difficulties. There are many different terms used including learning difficulty, learning disability and intellectual disability. As I conducted my research in an educational context and it has been preferred by some individuals, the term 'learning difficulty' was chosen to be used throughout (Goodley, 2011). Reports have found that children and young people with learning difficulties are four times more likely to have a diagnosed mental health condition compared to their peers without (NHS Digital, 2018). Furthermore, it is also clear that their school and learning anxiety is higher compared to those without learning difficulties (Alesi, 2014; Sainio et al., 2019). As such, there is an even stronger rationale to understand the anxiety around learning and testing for students with learning difficulties.

Zeidner's (1998) Integrative Transactional Model of Test Anxiety is one theory that has been used to explain the development of test anxiety. The model proposes that various elements (e.g. evaluative situation, personal variables) have a reciprocal interaction which could cause an individual to have higher levels of test anxiety. Research exploring test anxiety has shown that it can impact on academic performance for students with and without learning difficulties (von der Embse et al.,2018; Lewandowski et al., 2016). However, for some students, the anxiety motivated them to study more, especially in the case of high-stake tests (Sung et al., 2016). Similarly to the reports on school and learning anxiety, test anxiety has been found to

impact on students' subjective well-being and even had long term effects (Putwain et al., 2020; Steinmayr et al., 2016).

There are also various internal and external correlates of test anxiety including self-concept, fear of failure, study skills, academic subject, characteristic of tests, preparation and pressure from peers and family. Other studies have found that individuals will engage in different coping strategies (e.g. avoidance/distraction) to manage test anxiety. Additionally, they may also receive support from teachers and parents to help.

Based on the literature discussed, students with learning difficulties may be vulnerable to experiencing mental health difficulties and there is evidence to suggest that school, learning and testing can be triggers (Alesi et al., 2014). In addition, much of the research exploring the different correlates of test anxiety tends to focus on students without learning difficulties. From this, a clear rationale to explore test anxiety in students with learning difficulties is evident. Furthermore, much of the research exploring Zeidner's (1998) Integrative Transactional Model of Test Anxiety and test anxiety in general has been conducted using quantitative methods (Putwain, 2007). As such, it is useful to use some quantitative methods to explore some aspects of test anxiety (i.e. trait test anxiety) but then extend the literature by using qualitative methods in order to understand the students' point of views in more depth. It is anticipated that this may contribute to the knowledge on test anxiety in children and young people with learning difficulties and fill some of the gaps in the literature.

Therefore, the aim of the research is to gain the views of Year 7 and 8 students with learning difficulties in cognition and learning. The areas of focus include the students' views of tests, how they experience it, what aspects of test-taking they find most worrying and what coping strategies are used to alleviate their worries.

The research questions are as follows:

1. To what extent do students in this sample experience trait test anxiety?
2. How do students with learning difficulties at different levels of test anxiety feel about tests and revision?
3. For students with learning difficulties, what do they perceive contributes towards test anxiety?
4. For students with learning difficulties, what do they perceive alleviates test anxiety?

CHAPTER THREE: METHODOLOGY

3.1 Introduction

The following chapter describes the methodology for the research study. First, the research aims and research questions are presented. Next, the research paradigm of the study, that is pragmatism, is explained. Then, the research design, including the recruitment process, participant information, materials, procedure, ethical considerations and data analysis are discussed.

3.2 Research Aims

The aim of the research was to understand the views of Year 7 and 8 students with learning difficulties about tests and exams. I did not choose older students who were studying GCSEs as there were experiencing difficult exam changes due to the COVID-19 pandemic. The students had difficulties in the specific area of learning and cognition rather than physical or interaction and communication (DfE and DoH, 2015). This is because if all types of needs were included, there would be more factors at play which could potentially impact their views (Robinson, 2014). More specifically, the aims were to explore the students' views and feelings of tests, what they perceive contributes towards test anxiety and what coping strategies are used to alleviate their worries.

The research questions are as follows:

1. To what extent do students in this sample experience trait test anxiety?
2. How do students with learning difficulties at different levels of test anxiety feel about tests and revision?
3. For students with learning difficulties, what do they perceive contributes towards test anxiety?
4. For students with learning difficulties, what do they perceive alleviates test anxiety?

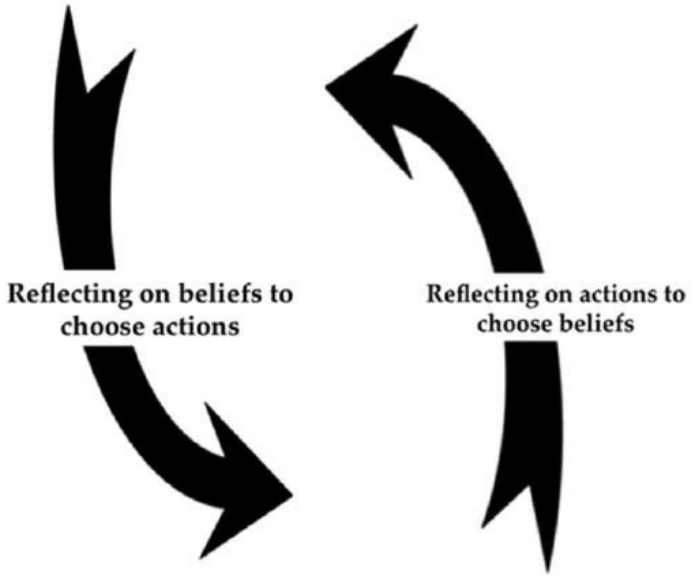
For research question 2, the quantitative results were combined with the qualitative results to explore the views of students with learning difficulties in either high-, moderate- or low-test anxious groups. For research question 3 and 4, I explored what students with learning difficulties perceive as contributing towards and alleviating test anxiety in general, rather than specifically with those who are highly test anxious. This is because those with low test anxiety can also experience state test anxiety (i.e. the degree that an individual experiences immediate anxiety in assessment situations) and so it would be important to also explore their views.

3.3 Research Paradigm

The research paradigm that underpins this study is pragmatism. In terms of ontology, pragmatism accepts both the post-positivist and constructivist view of the world, in that there is the existence of one reality but different people will have their own interpretations of that reality (Maarouf, 2019). This interpretation can be shared due to socially shared experiences. With regards to epistemology, pragmatism assumes that individuals gain knowledge through social experiences. However, as mentioned previously, much of this knowledge is shared because it comes from socially shared experiences (Kaushik & Walsh, 2019). The methodology of pragmatism focuses on 'what works' to solve a problem rather than sitting on either end of the continuum of post-positive or constructivist. Morgon (2014) describes Dewey's pragmatism to inform the research process as can be seen in Table 4. Dewey advocated for pragmatism as he wanted to focus on the experience of humans, which he suggested had contextual, social, and emotional influences. Experiences are an interpretation process which is cyclical, whereby humans will interpret their beliefs to form actions and interpret actions to form their beliefs (see Figure 4).

Figure 4

Dewey's Cyclical Process of Actions and Beliefs (Morgon, 2014, p. 1047).



Dewey (1920, as cited in Morgon, 2014) explained that enquiry is used when belief become problematic and as such, requires action to provide a solution. Dewey outlined the five steps to enquiry:

Table 4

Dewey's Five Steps of Enquiry (1910, as cited in Morgon, 2014, p. 3)

1. Recognising a situation as problematic;
2. Considering the difference it makes to define the problem one way rather than another;
3. Developing a possible line of action as a response to the problem;
4. Evaluating potential actions in terms of their likely consequences;
5. Taking actions that are felt to be likely to address the problematic situation.

As such, pragmatism focuses on the process of trying to solve real-world problems and choosing the appropriate action to do this. Morgon (2014) also noted that inquiry is grounded within contextual, social and emotional factors, as mentioned above. Therefore, I have used a mixed methods approach in order to explore my research questions. The first research question uses quantitative data only. The second research question lends itself to using

quantitative and qualitative data, because I wanted to find out more about what specific groups felt. To do this, I needed both quantitative and qualitative data. The rest of my research questions used qualitative data. Therefore, my desired research aims lend itself towards pragmatism.

3.4 Research Design

The research design of the study is convergent mixed methods (Creswell & Plano Clarke, 2017). The definition of mixed methods research design has changed over the years incorporating different elements. An early definition described mixed methods as:

"*…those that include at least one quantitative method (designed to collect numbers) and one qualitative method (designed to collect words), where neither type of method is inherently linked to any particular inquiry paradigm*" (Greene et al., 1989, p. 256).

Therefore, this definition focused on the method of data collection using both qualitative and quantitative methods. Later, Johnson et al. (2007) explored various definitions of mixed methods to aim to reach a consensus. The different definitions focused on one or more of the following elements including:

- *What* data is being mixed
- *When* the data is mixed, the *purpose* of mixing the data
- The *orientation* of the mixed method data. The *orientation* of the mixed method data is whether the approach is 'bottom-up' whereby the research question drives the use of this method or whether the approach is 'top-down' whereby the approach is not driven by the research question but the researcher's aim to conduct participatory and anti-discriminatory research.

Johnson et al. (2007) concluded their article by creating a composite definition as follows:

"Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration" (p. 123).

Mixed methods aligns with the paradigm of pragmatism as it enables the researchers to use whichever approach is best suited to answer the research question. This also incorporates using multiple approaches at once which can be a strength over studies using one method or approach. Johnson and Onwuegbuzi (2004) explain that mixed methods can be effective when a researcher considers the strengths and weaknesses of qualitative and quantitative data collection. In doing so, the researcher can use this knowledge to collect the most useful combination which 'result in complementary strengths and nonoverlapping weaknesses' (Johnson & Onwuegbuzi, 2004, p. 18). For example, a researcher may wish to seek participants' qualitative views to add to quantitative data or vice versa. This can provide corroboration or even help to explain differences and further understanding. For my current study, since much of previous research utilised quantitative data collection methods, I decided that it would be important to further knowledge by adding a qualitative element alongside quantitative data. As above, this could either provide corroboration or provide explanations for any differences.

However, there are some limitations and challenges to using mixed methods. For example, there is not a set method or structure in how to effectively mix quantitative and qualitative data. This becomes more difficult when researchers need to merge data which are numerical

and text-based. Furthermore, this could be a challenge for researchers who are new to this approach.

To decide which specific mixed method design to use, Creswell and Plano Clarke (2017) explain that the researcher needs to understand the intent for mixing the data. The different design methods include convergent design; explanatory sequential design; exploratory sequential design (See Table 5).

Table 5

Different Mixed Methods Designs

Convergent Design	Quantitative and qualitative data is usually collected at a similar time, and analysis results are combined or compared to validate or provide a better understanding of a phenomenon. It also enables the comparison between qualitative and quantitative data.
Explanatory Sequential Design	Qualitative data is used to explain quantitative results, or they may wish to use quantitative data to support with sampling in qualitative phase.
Exploratory Design	The results of a qualitative analysis informs the development and application of a quantitative measure.

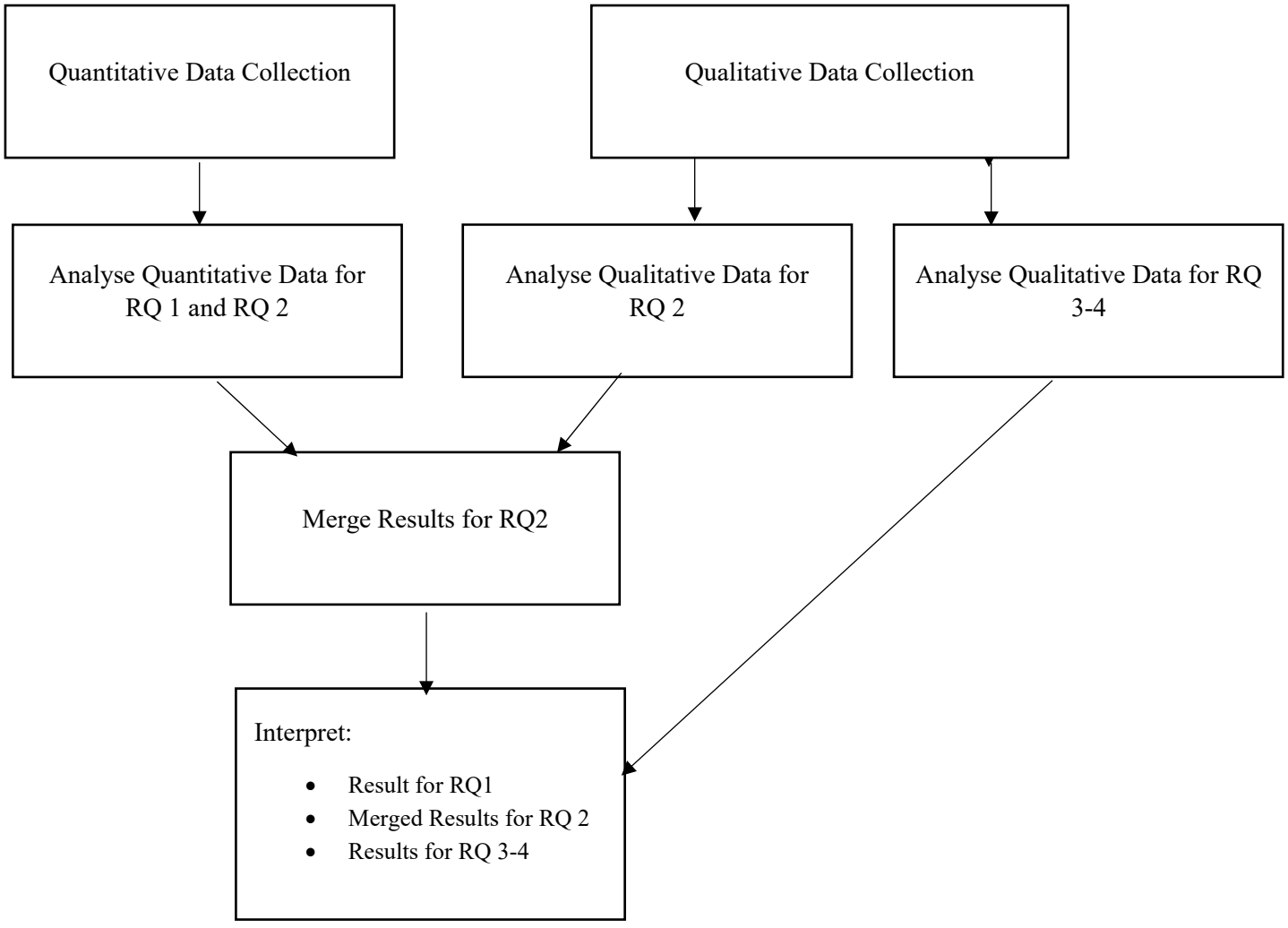
Based on the above descriptions, I chose to use a convergent mixed methods design as I wanted to collect both quantitative data and qualitative data at the same time on all my participants. Furthermore, I also wanted to combine the data at results in order to compare the quantitative and qualitative data to answer my second research question. The remainder of the research questions either only used quantitative or qualitative data. The qualitative data in my study had a bigger emphasis which is denoted as quan + QUAL (Creswell & Plano Clark, 2017). The figure below illustrates the implementation of the convergent mixed methods process for this study (see Figure 5). Further information about the data analysis can be found in section 3.1

Figure 5

Convergent Mixed Methods Process for this Study

Research Questions:

1. To what extent do students in this sample experience trait test anxiety?
2. How do students with learning difficulties at different levels of test anxiety feel about tests and revision?
3. For students with learning difficulties, what do they perceive contributes towards test anxiety?
4. For students with learning difficulties, what do they perceive alleviates test anxiety?



3.5 Recruitment Process

I recruited participants from a mainstream secondary school on placement. Initially, I emailed the school headteacher and special needs co-ordinator (SENCo) providing an information sheet (See Appendix A) and a request to recruit participants from their school. When this was agreed, I had a face-to-face discussion with the SENCo and assistant SENCo (who were going to support me with recruiting participants) about the research study. I explained the purpose and aims of my study and what was required of the students. I then talked through the participant inclusion and exclusion criteria (see table 6). The SENCo was then able to use the exclusion and inclusion criteria list to highlight potential students who could participate in the study. I was unable to directly take part in recruiting potential participants because it would not have been ethical for me to access student details and to meet the young people before consent had been gained from parents and themselves.

Participants were selected based on purposive sampling. Purposive sampling is a method of recruiting participants whereby the researcher chooses participants to fit their criteria (Robinson, 2014). One of the key reasons for using purposive sampling is because the chosen participants provide different and important perspectives to answer the research questions. As I wanted to explore the views of young people with learning difficulties in cognition and learning, currently in year 7 or 8, the participants in my study needed to fit such criteria. Additionally, there were some exclusion criteria which the participants should not meet in order to take part in the study. For example, I did not want to recruit participants who had any other additional needs or diagnoses such as autism as I wanted to focus on difficulties in cognition and learning specifically. I also did not choose older students who were studying GCSEs as there were experiencing difficult exam changes due to the COVID-19 pandemic. See table 6 for the full inclusion and exclusion criteria list.

Table 6

Participant Recruitment Inclusion and Exclusion Criteria

Inclusion Criteria	**Exclusion Criteria**
• Can be female or male students attending a mainstream secondary school. • Students in Year 7 or 8 as the Children's Test Anxiety Scale was sampled and developed with children aged 8-12 years old. • They should have sat their SATs exams and/or had assessments/tests within school. • The students will have some difficulties in learning as defined by working at 3 years below age expected levels. (Note: the local authority criteria for special educational needs support are students working 2+ years below current age). For example, a student recruited in Year 7 would be academically working at the level of approximately aged 8 or 9. • If students have English as an additional language, they should be at Stage E (Fluent) • Be able to communicate and discuss how certain topics make them feel (e.g. tests)	• Has any sensory impairments (e.g. hearing, visual) • Students with English as an additional language in stage A (New to English), stage B (Early Acquisition), Stage C (Developing competence) and Stage D (Competence) • Has an Education, Health and Care Plan. • Has a formal diagnosis e.g. autism, ADHD, DLD, dyslexia, dyspraxia • Has a formal mental health diagnosis

Once prospective participants had been identified, the SENCo explained the research study to them, and they were given an opportunity to express an interest. The assistant SENCo then sent out parental information sheets (see Appendix B) and consent forms (see Appendix C) to the parents of students who expressed an interest. Any parental consent forms which were signed and returned to the school were passed on to me to proceed with the next step.

I then met with prospective participants (who had parental consent) to gain informed consent (BERA, 2018; BPS, 2021) and to start the rapport building process. I talked through and explained the participant information sheet which included the purpose of the research study, what it would involve, what they would need to do and their rights to withdraw (see Appendix D). I also gave them the opportunity to ask questions. Following this, if they agreed to take part and I felt they had the language to express their views, I gave them a consent form to sign

(see Appendix E). This lasted approximately for 20 minutes. For those who did not want to take part, they were free to leave, and I gave them and their parents a letter of thanks (see Appendix F and G).

Originally, I had planned to gather consent in one session and to collect data in another. However, through my pilot study, I became aware that some students do not like to miss lessons and it can be disruptive if they are taken out of class too much. Therefore, I gave participants the option to do all of the activities in one session or to spread this across two sessions. Additionally, if I felt that a participant was becoming tired or if they said that they wanted to do the data collection another time, then I would move data collection to another session.

3.6 Participant Information

There are different views about the number of participants needed for studies using qualitative methods and analyses (e.g. thematic analysis). For example, some researchers suggest using 5-8 participants where they are homogenous (Kuzel, 1999), and some suggest between 12-60 (Adler & Adler, 2012). Others suggest that the number of participants required depends on the degree of saturation, that is the point whereby gathering more data does not result in further insights or understanding of the phenomena (Hennink et al., 2017). Hennink et al. (2017) suggested that 91% of the codes were identified by the sixth interview whereby Francis et al. (2010) found that saturation was between 14-15. One of the limitations and reasons for the many differences could be because there are lots of approaches in deciding the ideal number of participants and also varying definitions of key terms (e.g., saturation). As there is much variation in the 'ideal' number of participants, I referenced Terry et al. (2017) as two of the

authors are the main authors of my chosen qualitative data analysis approach (i.e. reflexive data analysis). They suggested that a professional doctorate project would need between 6-15 interviews.

As such, ten participants were recruited for the research study from the same mainstream secondary school. It is a community school located in the inner-city, with approximately 1560 pupils. The current Office for Standards in Education (OFSTED) rating for the school is 'outstanding'. The majority of the students are of Indian-Asian heritage and speak English as an additional language. 24.6% of pupils are eligible for free school meals and the number of students who have special educational needs is above the national average. In total, nine participants were used within the analysis as one participant withdrew from the study (see table 7). There were 5 males and 4 females, aged between 11-12. There were two participants in year 8 and seven participants in year 7.

Table 7

Participant Information

	Age	**Year Group**	**Gender**
Participant 2	12	Year 8	Female
Participant 3	12	Year 8	Male
Participant 4	11	Year 7	Male
Participant 5	11	Year 7	Male
Participant 6	11	Year 7	Male
Participant 7	11	Year 7	Female
Participant 8	12	Year 7	Female
Participant 9	12	Year 7	Male
Participant 10	12	Year 7	Female

One strength of the sample of participants is that I recruited all of them from the same school. This is important to consider because schools vary in culture (Jerald, 2006) and also vary on the types of assessments used (Poet et al., 2018). If I recruited from different schools, these

factors would need to be considered, which would bring about a more complex analysis that extends beyond the views of young people with learning difficulties

3.7 Materials

The Children's Test Anxiety Scale (CTAS) was used to collect the quantitative data and a semi-structured interview was used to collect qualitative data. The following sections will describe these materials in more detail including the strengths and weaknesses.

3.7.1 Children's Test Anxiety Scale

The CTAS developed by Wren and Benson (2004) was used to collect quantitative data on trait test anxiety (see Appendix H). This scale was developed as a result of increased pressures to raise the achievement grades of students in America, which in turn has led to more testing. Although testing has been prominent in children's education, many of the testing instruments and scales for test anxiety have been developed for adults. Prior to the scale developed by Wren and Benson (2004), the most commonly used test anxiety scale for children was the Test Anxiety Scale for Children (Sarason et al., 1960). However, it has various limitations, such as wording that is too complex and some outdated concepts (e.g., use of blackboards) (Wren & Benson, 2004). Therefore, Wren and Benson's (2004) aim was to develop a self-report tool which would be reliable and valid in measuring test anxiety in children and young people from a wide range of backgrounds.

The background of the CTAS was based upon existing literature, and also practical experience from one of the researchers who had been a teacher for many years (Wren & Benson, 2004). Based on the literature, they viewed test anxiety as a situation-specific trait, with three components forming their test anxiety scale. The three components include *thoughts, autonomic reactions* and *off-task behaviours* (Wren & Benson, 2004). The thoughts

component includes task-irrelevant thoughts, worries about the test and negative perceptions of self in relation to tests. The autonomic reactions component includes bodily reactions such as increased heart rate. The off-task behaviours component includes distracted behaviours and nervous movements such as rocking and playing with hair. The sample used to develop the scale was based upon 261 children aged between 8-12 years, from a diverse background. This was made up of 47% males, 53% females, 5% Asian students, 44% Africa-American students and 51% White students.

The CTAS consists of 30 items (Wren & Benson, 2004). There are 13 items for the *thoughts* subscale *(*e.g. *I think I am going to get a bad grade)*; 9 items for the *autonomic reactions* sub-scale (e.g. *My heart beats fast)*; 8 items for the *off-task behaviours* sub-scale (e.g. *I look at other people)*. The scale is measured on 4-point Likert scale (1 = *almost never,* 2 = *some of the time*, 3 = *most of the time*, 4 being *almost always*). The scale does not provide sub-scores for each of the components due to differences in number of items. The CTAS provides one score for test anxiety, by totalling up the scores with no reverse scoring. The higher the score the greater the likelihood the child or young person has high levels of test anxiety and the lower the score the greater the likelihood the child or young person has low levels of test anxiety. Wren and Benson (2004) also provided cut off scores for which the above is the case, see Table 8 below.

Table 8:

Scores and Descriptors for CTAS

Score	**Descriptor**
79 or greater	High Test Anxiety
46-78	Moderate Test Anxiety
45 or below	Low Test Anxiety

I considered this measure to be suitable as the CTAS aims to overcome some of the limitations of previous test anxiety scales for children and young people. For example, the wording within the CTAS is simpler and is specifically aimed at the reading levels of children and young people aged 8-12 (Wren & Benson, 2004). I intended to use the scale with children and young people in year 7 and 8 (aged 11-12) who are working at 2-3 years below expected levels so the CTAS seemed most appropriate. Furthermore, the researchers considered the ethnic diversity of children and young people and used an ethnically diverse sample to create the CTAS. This was also a key strength of the CTAS for my study, as I was collecting data within a school which is ethnically diverse.

However, a limitation for using this scale is that it was developed in America and my study is conducted within England. There may be differences in how trait test anxiety is manifested across cultures which are not considered by the authors. Another limitation is that whilst the scale measures the three components, *thoughts, autonomic reactions* and *off-task behaviours,* there are no separate scores for each due to differences in number of items. Having separate scores may be useful to further understand which aspects of trait test anxiety are more significant for participants.

3.7.2 Semi-structured Interview

I also developed a semi-structured interview to collect qualitative data on test anxiety. Semi-structured interviews have specified questions and usually allow for further probing so that the participant can further elaborate or explain their answer (May, 2011). There should be enough structure to allow for key ideas from the literature and theory to be explored but also give the participants the opportunity to offer information freely. This approach was most suitable for this study as I wanted answers to be focused on the research questions but also wanted the flexibility to further probe participants to share more about their experiences and

views. A structured interview would be too rigid and would not allow me to ask about interesting points that have been made from participants (May, 2011). On the other hand, unstructured interviews encourage participants to talk about the topic based on their own 'frames of reference' (May, 2011, p. 136), that is any idea or concept within that topic which they feel is important to share or is familiar to them. As I wanted to ask about specific experiences of tests, this would have been too open.

For this study, semi-structured interview questions were developed based on the literature on test anxiety, such as worry, study skills and task-irrelevant thoughts (See Appendix I). There were a mixture of closed questions (e.g. *Do you revise for tests?)* to gauge whether asking about a particular aspect was relevant to their experiences and open questions (e.g. *How do you feel when you revise for tests?)*. This was revised following a pilot interview (see Appendix J).

There are some issues relating to the use of semi-structured interviews with children and young people with learning difficulties. For example, it is important to consider their linguistic abilities and to use language which is most familiar to them (Gibson, 2012). It may be that interviewers would need to dynamically assess and adjust language accordingly during the interview. As such, in the pilot study and conducting of interviews, I learnt to adjust my language. For example, some participants did not understand what 'revise' meant and so I would explain it as 'practising for tests'. Furthermore, when interviewing children and young people with learning difficulties, interviewers may try to use different methods to support with understanding, such as pictures (Lewis, 2004). For example, I used visual pictures to encourage them and stimulate their own thinking (see Appendix K). I also used a visual table to help participants to structure and visualise their answers when asked to list their subjects, the tests in each subject and how they felt about both (see Appendix L). Research has found

that using pictures is not impacted by the recency effect (i.e. choosing the last of what was heard) which reduces bias (Lewis, 2004). However, some may argue that visual aids may influence their responses. To counterbalance this, I made sure to ask participants to further expand on their own answers or to explain them, where possible. However, Lewis (2004) also notes that it is important to not over-prompt children with learning difficulties for answers as when they are unsure of a memory, they tend to fill in the gaps with imaginary details, thus reducing accuracy.

3.8 Procedure

I conducted a pilot study with the first draft of an interview schedule (see Appendix I) with one participant to practise running through the procedure. It is important to conduct a pilot study as it helps the researcher to practise the research process and to note and strengths and limitations (Van Teijlingen & Hundley, 2010). In the pilot study, all the same steps were followed except the interview was not recorded. The pilot study helped me to make amendments to some of my wording and think more carefully about my probing questions (see Appendix J).

For data collection, I explained to the participants that they were going to complete a questionnaire called the CTAS (see Appendix H). I gave the participants the option of completing the questionnaire independently or with me supporting them to read the items. If a participant was unsure about an item, I explained the meaning of it.

Secondly, I explained to the participants that I was going to ask them some questions about test and exams. I also voice recorded these interviews using a voice recorder and so reminded the participants about this. Prior to recording the interview, I asked participants to tell me the

different lessons that they have in school and filled this into the visual table. I then proceeded with the semi-structured interview.

At the end of the interview, I asked participants if they had any further questions. If not, I proceeded to read and go through the debrief form (see Appendix M) to explain the outcomes of the research study, how long they have to withdraw and contact details of further support. I then asked the participants again whether they were happy for me to include their questionnaire and interview responses in the research study. I also gave a debrief form for them to take home to their parents (Appendix N). To end the session, I gave the participants the option to play a game or to return to their class.

The recordings were later transcribed verbatim (see Appendix O for an example of a transcript) and questionnaires were scored. All recordings, transcriptions, questionnaires and signed forms were stored securely in the university electronic storage and in a locked cabinet.

3.9 Ethical Considerations

Ethical issues were considered throughout the design, planning and implementation of the research study. The research study was given ethical approval by the University of Birmingham ethics board. The research study followed the guidance and principals from the British Psychological Society's Code of Ethics and Conduct (BPS, 2021) and British Psychological Society's Code of Human Research Ethics (BPS, 2021). In addition, ethical considerations were in accordance with British Educational Research Association's recommendations, see table 9 (BERA, 2018).

Table 9

Ethical Considerations Accordance to BERA (2018)

Guideline	**Explanations of Steps to Adherence**
Voluntary informed consent	I made sure that detailed information was provided to school staff to support with recruiting participants in the secondary school and to allow students to volunteer their interest (see

	Appendix A). I also provided detailed information for parents of prospective participants and provided them with a consent form to sign (see Appendix B and C). A simplified information sheet to meet the needs of the young people with learning difficulties was also provided to the prospective participants (see Appendix D). Following this, I met with the prospective participants to explain to them the study in person and to see if they fully understood the nature of the study. I then provided and explained the consent form to participants to sign if they still wished to take part (see Appendix E).
Transparency, openness and disclosure	I did not use any deception in the study and was clear in my research aims to the school, parents and young people. These were also noted in the respective information sheets prior to participants taking part.
Right to withdraw	Parents of prospective participants were informed in the information sheet and consent form that participants can withdraw at any time during data collection and up to 2 weeks after (see Appendix B and C). This was also included in the participant's information sheet and consent form in a simplified version so that the participants can understand (see Appendix D and E. When meeting participants, I aimed to build a rapport with them so that they felt comfortable to share their views and to say they did not want to take part if they wished to. I also reiterated throughout data collection that they could withdraw and reminded them of the two weeks they had. No reasons would need to be provided if they did wish to withdraw.
Harm arising from participant in research	Physical risk of harm to me as the researcher was minimal as the interviews was conducted in the school setting. However, I made sure to conduct the interviews in a room with a clear window, so as to safeguard the young person and myself. I took steps to avoid evoking distress for all those involved and operated within an ethic of respect. As the study focused on discussions about tests, anxiety and worry, this may evoke distress in participants. I made sure to be aware of if participants became distressed, in order to act accordingly (e.g. stop interview, call for staff support). On the debrief form, I also signposted the participant to support from a colleague or senior member of staff in school, and to relevant external services and agencies, should they need it (see Appendix M). Parents were also given debrief forms (see Appendix N).
Confidentiality and data storage	Although participants cannot maintain anonymity, their names were changed in the write up of the thesis so that they cannot be identified by other individuals. Participants' information sheets, consent forms and data were also stored securely in a locked cupboard and at University of Birmingham BEAR storage for 10 years. Only I had access to the data. Data will be destroyed after 10 years.
Disclosure	There is a risk that a participant may make a disclosure which raises safeguarding concerns. I made sure to be prepared if this occurred, by noting school and local authority procedures. Participants were also made aware of the limits to confidentiality in these scenarios via the participant information sheet and verbally.
Methods	The methods used in the study were carefully considered so that they are fit for the purpose intended. I also provided reasons and justifications for the methods and whether they meet marker of quality. In order to build up a rapport, I played a game (e.g. Jenga, noughts and crosses) with them so they felt more at ease. Building a rapport is an important part of the recruitment process as it can help to make child participants more comfortable and less worried (Almerigogna et al., 2007) and increase communication (Collins et al., 2014). It can also help interviewers gauge the cognitive and emotional level of the children (Collins et al., 2014). As such, if prospective participants feel comfortable, they are more likely to be open to say they do not

	want to take part or want to withdraw. Therefore, this rapport building process continued throughout the data collection process.
Publication	I made it clear to participants that my work will be written up anonymously as part of my Volume 1 thesis and may be published. This was included in the consent forms (see Appendix C and E).
Responsibilities to the Community of Educational Researchers	I followed and adhered to my responsibilities as part of the research community.

3.10 Data Analysis

3.10.1 Quantitative Data

Descriptive analyses was used for the quantitative data for Research Question 1: *'To what extent do students in this sample experience trait test anxiety'.* The CTAS was scored to a give a total trait test anxiety score. Participants were categorised as either 'high test anxiety', 'moderate test anxiety' or 'low test anxiety'.

3.10.2 Qualitative Data

For the qualitative data, there were two approaches used for data analysis. For Research Question 2, as I was combining the quantitative and qualitative data, I separated the data according to the different levels of trait test anxiety. For Research Question 3 and 4, reflexive thematic analysis was used.

3.10.2.1 Data Separation

For Research Question 2: *'How do students with learning difficulties at different levels of test anxiety feel about tests and revision?*', I separated the data according to the different levels of trait test anxiety (Cohen et al., 2018). For this study, I separated the qualitative data gathered from the semi-structured interviews to understand what each participant thought and felt about tests and revision within the categories of high-, moderate- or low-test anxiety. The strength of separating the data is that it provides more detailed understanding of what is

happening within specific groups. However, this does not necessarily show a causality and only indicates patterns of what may be happening.

3.10.2.2 Reflexive Thematic Analysis

Based on the following reflections and assumptions, reflective thematic analysis was method chosen to analyse the data for Research Question 3: *'For students with learning difficulties, what do they perceive contributes towards test anxiety?'* and Research Question 4: *'For students with learning difficulties, what do they perceive alleviates test anxiety?'* (Braun & Clarke, 2006; 2019; 2020; 2021; 2022). I analysed the participants as a whole group, rather than only those who had high test anxiety. I did not explore what each group (i.e. high, moderate, low test anxiety) thought specifically as some individuals can also experience state test anxiety and so it would be important to include the views of all.

Thematic analysis finds patterns and interprets data (Braun & Clarke, 2006; 2019; 2020; 2021; 2022). There are multiple approaches within thematic analysis, with differing procedures and underlying philosophical assumptions. The first is *codebook reliability* which aims to produce coding which is unbiased and unreliable, usually through multiple coders, use of a codebook and inter-rater reliability. As such, *codebook reliability* is more neo-positivist in philosophical assumptions. The second is *codebook* which uses a structured coding framework, but themes can be developed prior or during the analysis stage. Its assumptions are more 'qualitative' based but has some positivist ideas. Lastly, is *reflexive thematic analysis* which is more 'qualitative' based and focuses on the researcher's subjective, reflexive interpretation of the data. Usually, only one individual is needed for this process. Analysis can be deductive or inductive, and does not use a coding framework, whereby

themes are the ‘end product’ of coding. As I recognise my own subjective interpretations and was not going to use a coding framework, I chose to use reflexive thematic analysis.

Reflexive thematic analysis is theoretically flexible and should not be considered as theoretically neutral (Braun & Clarke, 2022). Terry et al. (2017) explain that thematic analysis can be used within various ontological and epistemological assumptions. However, it is important for the researcher to recognise their own assumptions. For my research, my assumptions are based within pragmatism, which accepts the post-positivist and constructivist view of the world and focuses on finding ‘what works’ to solve a problem (Morgon, 2014). As such, reflexive thematic ‘works’ to help me to answer the research questions as I was the only one doing the research and I was also able to recognise that I would also make my own subjective interpretations of the qualitative data.

For the reflexive thematic analysis, I chose to use the deductive approach which is a ‘top-down’ approach that is theory driven and based upon pre-existing frameworks (Braun & Clarke, 2006, p. 83). I chose to use the deductive approach because my research questions acted as a framework and themes were chosen to answer these questions. It is also important to consider whether data was to be analysed at a semantic and/or latent level. At a semantic level, the researcher takes what the participant has said at ‘face value’ and does not interpret beyond this (Braun & Clarke, 2006). At a latent level, the researcher explores the ideas and assumptions which underpin the semantics of what has been said. For my study, I analysed the data at the semantic and latent level as both would bring important reflections to this topic area.

Unlike other thematic approaches which focus on reliability, reflexive thematic analysis does not. Braun and Clarke (2022, p.15) explain that the subjectivity of the researcher is important

and is considered a 'tool' which should not be controlled for. The interpretation of data is not described as accurate but rather 'weaker (e.g., under-developed, unconvincing, thin, superficial, shallow) or stronger (e.g., compelling, insightful, thoughtful, rich, complex, deep, nuanced)' (pp.15-16).

The steps to reflexive thematic analysis is described in Table 10 (Braun & Clarke, 2006; 2019; 2020; 2021; 2022). It is important to note that there have been some changes to the wording of the steps, such as 'generating initial themes' instead of 'searching for themes'. This is because 'searching' implies that there is something to find in the data whereas it important to acknowledge the active role of the researcher.

Table 10

Steps of Reflexive Thematic Analysis (Braun & Clarke, 2006; 2019; 2020; 2022).

Steps	Description	What was completed in this study
1. Familiarisation with the data	Reading and re-reading the data to be familiar with the content	After typing up my interviews verbatim, I read through data multiple times and highlighted any parts which were interesting.
2. Coding	Generating labels of features of the entire dataset which could answer the research questions.	I wrote down some codes next to any previous or new highlights which could answer the research questions for each participant (see Appendix P).
3. Generating initial themes	Examine the codes and identify similarities and patterns of meaning which can become themes. Find data which fits within potential themes.	I examined my codes across all the participants to find similarities. I summed these up with potential initial theme names. (see Appendix Q)
4. Reviewing themes	Check the potential themes against the data, that they answer the research questions. Potential themes can be changed, refined or removed.	I spent time reflecting on the themes and data and tried to make sense of the data against the research questions. I combined some themes together and refined/removed others.
5. Defining and naming themes	Develop a focus, analysis and name for each theme.	I finalised the names for each themes and developed my analysis for each, which was supported by quotes from the data (see Appendix R).

6. Writing up	Writing up the themes and analysis – all in relation to the existing literature.	I wrote up my analysis in relation to existing literature (see Chapter 4).

3.11 Quality Assurance

For mixed methods research, as it generally uses both quantitative and qualitative approaches, they would need set criteria for each (Creswell & Clark, 2017).

For the quantitative data analysis, the reliability and validity of the scale used is important. The reliability of the CTAS was recorded as coefficient alpha 0.92 and for each sub-scale were as follows: *thoughts* is 0.89, *autonomic reactions* is 0.85 and *off-task behaviours* is 0.78 (Wren & Benson, 2004). Therefore, the scale shows good levels of reliability (Ursachi et al., 2015), which means that the scores are likely to be consistent across repeated measures. Whilst the scale does not provide sub-scale scores, it is important to recognise the reliability of each of the components to form the total test anxiety score. The researchers also conducted a confirmatory factor analysis to measure the internal construct validity, which is whether the scale measures what it is supposed to measure (Stone, 2019). They found that the item factor loadings were statistically significant, ranging between 0.37-0.76, with over a half of the factor loadings being over 0.60 (Wren & Benson, 2004). This suggests that each item correlates with its respective sub-scale and so has good internal construct validity, meaning it is likely to measure children's trait test anxiety as theorised by Wren and Benson (2004).

For the qualitative data analysis, there are a few ways to quality assure the research. Firstly, 'reflexivity' is a key component of reflexive thematic analysis. The researcher does not merely describe the data, but there is an inherent process of interpretation (Braun & Clarke, 2020). As a researcher, I recognised that I interpreted what had been shared by the

participants. Because of this, I made sure to take the time to read, reflect, question, wonder and return to the data (Braun & Clarke, 2020). Additionally, I kept a reflective diary in order to recognise my own biases and interpretations within the research process (Reynolds et al., 2011). Secondly, it is also important to be able to be transparent within the research process, and so I have stated the rationale and reasons for my decisions, including any limitations, where possible (Reynolds et al., 2011).

In addition to the above, whilst there is not a set method of mixing data, there can be bespoke criteria for evaluating mixed methods research to ensure quality assurance. Creswell and Clark (2017) describe four key and good characteristics of mixed methods study (see Table 11).

Table 11

Key Characteristics of Good Quality Mixed Methods (Creswell & Clarke, 2017; p.282).

Key Characteristic	**In this Study…**
1. In response to the research questions, qualitative and quantitative data are rigorously collected	I made it clear how I collected both the quantitative and qualitative data and how they answered each of the research questions.
2. Intentionally mixes the two forms of data	I mixed the two forms of data for the second research question (i.e. How do students with learning difficulties at different levels of test anxiety feel about tests and revision?) and this is clearly set out in my 'Findings Section'.
3. Organises the procedures clearly so it logically shows the reason for conducting the study	My rationale was clearly stated, including the steps and procedures of the study. I also included what I did to analyse and mix the qualitative and quantitative data.
4. Is framed within theory and philosophy	I made my research paradigm clear, which is pragmatism. Pragmatism accepts that there is an existence of one reality and that individuals will have different interpretations of it (Maarouf, 2019). As such it accepts both the post-positivist and constructivist view. It also focuses on using the best approach to answer the research questions. I also made it clear why I chose mixed methods and how it would have been useful (see Section 3.2).

CHAPTER FOUR: FINDINGS

4.1 Introduction

In this chapter, I explore the findings for each of the research questions. For the first research question, I grouped the participants into whether they scored as low, moderate or high trait test anxiety. For the second research question, the data were disaggregated to understand whether there were any differences between those with low, moderate or high trait test anxiety on their feelings and views on tests, exams and revision. Lastly, I wanted to understand the perceptions of students with learning difficulties on what contributes towards and alleviates test anxiety (i.e. third and fourth research questions). The views of all participants were considered rather than just those with high test trait anxiety as some may still experience state test anxiety.

4.2 Research question 1: To what extent do students in this sample experience trait test anxiety?

The scores on Wren and Benson's (2004) Children's Test Anxiety Scale were totalled for each participant. Scores which are 79 or greater are considered 'high test anxiety'; scores in between 46-78 are considered 'moderate test anxiety and scores which are 45 or below is considered 'low test anxiety'. See Table 12 for the scores.

Table 12

Participants' Trait Test Anxiety Scores

	Test Anxiety Scale Score	**Descriptor**
Participant 2	58	Moderate Trait Test Anxiety
Participant 3	77	Moderate Trait Test Anxiety
Participant 4	64	Moderate Trait Test Anxiety
Participant 5	101	High Trait Test Anxiety
Participant 6	39	Low Trait Test Anxiety

Participant 7	86	High Trait Test Anxiety
Participant 8	49	Moderate Trait Test Anxiety
Participant 9	36	Low Trait Test Anxiety
Participant 10	40	Low Trait Test Anxiety

Based on this sample of participants with learning difficulties, there are three students who rated themselves as having low trait test anxiety, four students who rated themselves as having moderate test anxiety and two students who rated themselves as having high test anxiety.

4.3 Research question 2: How do students with learning difficulties at different levels of test anxiety feel about tests and revision?

To explore how students with difficulties in learning feel about tests and revision, participants were asked about how they feel before, during and after tests and exams and during revision.

The qualitative data from the semi-structured interviews were separated based upon the different groups of trait test anxiety levels to understand their different views and feelings towards tests/exams and revision. See table 13.

Table 13:

Participants' Views and Feelings about Tests and Revision

	Views and Feelings Towards Tests/Exams	**Views and Feelings Towards Revision**
Participant 6 (Low Test Anxiety)	• Finds English and French tests 'confusing' • He is 'happy' doing Maths tests because he likes to work on the computer. • Does not get worried by small tests but for main tests, he can get a bit worried. • No difference in feelings before and after tests/exams.	• When revising, he feels 'good'
Participant 9 (Low Test Anxiety)	• Maths tests make him feel 'good' because he likes maths. • English tests make him feel 'good and excited' because he likes to write sentences	• When revising, he feels 'okay'.

	• No difference in feelings before and after tests/exams.	
Participant 10 (Low Test Anxiety)	• She is 'happy' doing spelling tests because her teacher and friends help her. • No difference in feelings before and after tests/exams.	• When revising, she feels 'happy'.
Participant 2 (Moderate Test Anxiety)	• Science tests make her feel 'worried'. • English tests make her 'confused'. • She is 'happy' doing maths tests because she likes maths. • She feels 'happy' after doing tests/exams	• When revising, she feels 'nervous'
Participant 3 (Moderate Test Anxiety)	• English, science and ICT tests make him 'scared and confused'. • Finds maths tests 'easy' because he does not have to write a lot. • Before a test/exam, he feels 'scared, angry and confused'. After, he feels 'good and happy'.	• When revising, he feels 'scared and excited'
Participant 4 (Moderate Test Anxiety)	• Maths tests make him 'worried'. • ICT tests make him 'nervous' • No difference in feelings before and after tests/exams.	• When revising, he feels 'nervous'.
Participant 8 (Moderate Test Anxiety)	• Science tests make her 'worried'. • Before a test/exam, she feels 'worried'. After, she feels 'happy'.	• When revising, she is 'unsure' how he feels.
Participant 5 (High Test Anxiety)	• English and DT tests make him feel 'scared'. • Science tests make him 'confused'. • He feels 'confident' for maths tests • Before a test/exam, he feels 'scared'. After, he feels 'like he has come down from a mountain'.	• When revising, he feels 'not confident and scared'.
Participant 7 (High Test Anxiety)	• Maths tests make her feel 'scared'. • English tests make her feel 'worried'. • Before a test/exam, she feels 'worried'. After, she feels 'scared and tired'	• No revision

Based on the above table, there appears to be differences in feelings and views between those with low trait test anxiety and moderate/high trait test anxiety. For those with low trait test anxiety, the three participants talked about feeling 'good' or 'happy' about taking various tests. Some of the reasons mentioned include enjoying doing the work and getting help from peers or school staff. However, Participant 6 did describe some tests as 'confusing' and that

he can find tests worrying if they are the ‘main tests’. This is not the case for ‘small tests’ which could be more class-based tests. Therefore, for Participant 6, he may have low trait test anxiety, but could have increased state test anxiety when being assessed on ‘main tests’. For all three participants with low trait test anxiety, they did not experience any differences in feelings before and after tests. They also reported feeling ‘happy’ or ‘okay’ when revising.

For students who have moderate and high test trait anxiety – there does not appear to be a clear difference in views or feelings. For these students, there is a mixture of negative and positive feelings about tests and exams for different subjects. For example, some students talked about how some tests and exams can make them feel ‘worried’, ‘nervous’, ‘confused’ or ‘scared’. However, some tests make them feel ‘happy’, ‘good’, ‘confident’. The reasons described for the positive feelings include liking the subject and not having to write a lot. The reasons for the negative feelings are discussed in the next research question. Four out of the six participants with moderate/high trait test anxiety reported negative feelings before a test and more positive feelings after. However, Participant 7 reported still feeling ‘scared and tired’ after taking the test or exam. Similarly for revision, there is no apparent differences in feelings or views for those with moderate or high trait test anxiety. Generally, they reported feelings such as ‘nervous’ or ‘scared’. Participant 3 reported a mixture of feelings, whilst Participant 8 was unsure how she felt. One participant reported that they did not revise.

Therefore, students with learning difficulties who have low test anxiety appear to feel ‘good’, ‘happy’ or ‘okay’ about tests and revision. Additionally, for some students with learning difficulties who have moderate and high test anxiety, some also felt ‘happy’, ‘good‘ and ‘confident’ with regards to particular subjects. Some of the reasons why they felt these

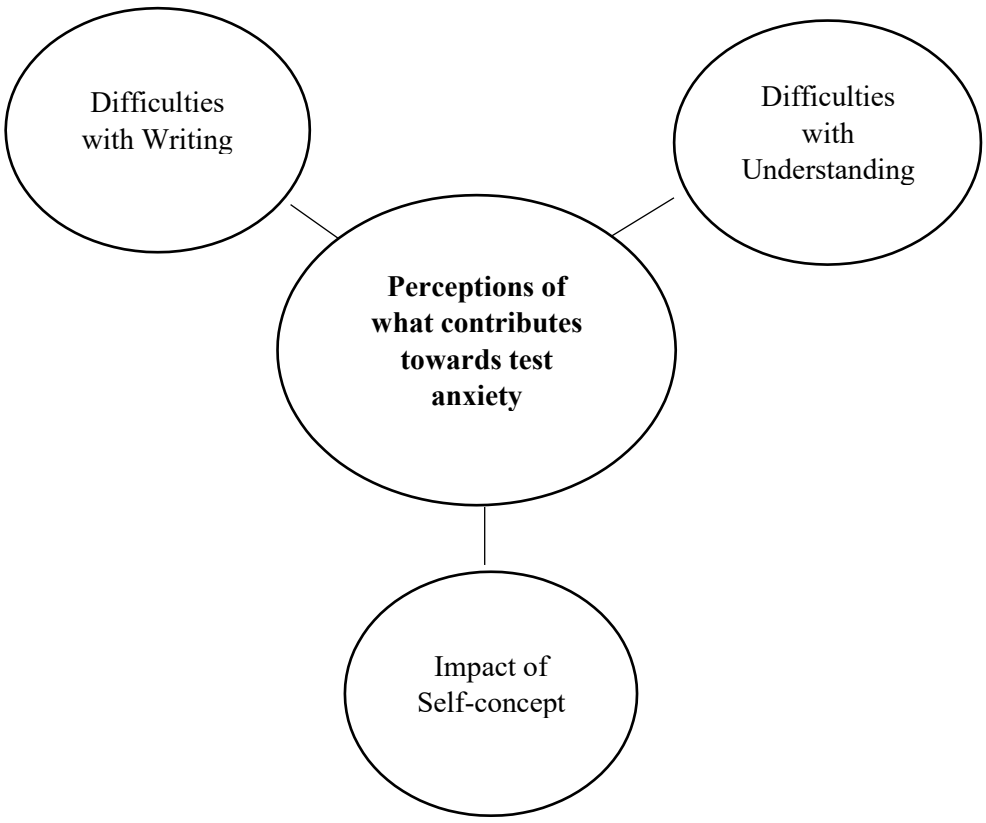
positive emotions is because they liked the subject, they liked doing the work or they felt they did not have to write much so it was easy. Some with moderate- and high trait test anxiety talked about how tests make them feel ‘nervous, ‘confused’ and ‘scared’. Similarly, one participant with low trait test anxiety also talked about how he worries about ‘main tests’ but not ‘small tests’. Most participants felt ‘nervous’ or ‘scared’ about revision and one participant reported that they did not revise.

4.4 Research question 3: For students with learning difficulties, what do they perceive contributes towards test anxiety?

In terms of research question three, there were three themes were identified which represents participants’ perceptions of what contributes towards test anxiety figure 6.

Figure 6

Themes for Research Question 3



4.4.1 Difficulties with Understanding

For the first theme, some students reported how some cognitive difficulties could impact on an individual's test anxiety. Participant 7 talked about her feelings towards maths tests:

"Erm, I felt scared because I didn't know what to do…" (Participant 7)

She talked about not knowing how to respond in the test which makes her scared. It appears that when a student does not know how to answer a test or exam question, this could lead to heightened feelings during an exam. Participant 3 provided some further insight into this:

"Because sometimes, I can't read the questions" (Participant 3)

Participant 3 talked about how tests and exams can be difficult because he cannot read the questions. If he cannot read the words in the question, it is clear he will not know what he needs to do. Participant 2 expanded on this further and talked about her understanding of words:

"*Er… a bit confused because I don't know what a word means".* (Participant 2)

For participant 2, she shared that she will sometimes not know what a word means. Even if she were able to read the word, if she does not understand the meaning, this could impact on whether she understands the whole question. As such, she will not know what is being asked and what response she should provide. Participant 7 shared similar views:

"Because I didn't understand the question and then no one here to help" (Participant 7).

Participant 7 also sometimes does not know how to answer the test questions because she does not understand it. Similarly, if she does not comprehend what is being asked of her, she will not be able to answer the question which can causes some fear and uncertainty of the

unknown. This fear appears to be exacerbated by not having anyone to help her understand the question.

Participant 3 and Participant 5 also talked about the knowledge to answer questions:

"Because they give you a question, 'what is Muslim?' and 'what is Islam?' so they were confusing, like you don't know what to write about them, so I found it a little bit harder." (Participant 3)

"Yeah, because I am confused by the French numbers and alphabets" (Participant 5)

Both participants talked about in-school summative tests (e.g. religious education and French tests). From the quotes, it appears that they feel that not having the knowledge to answer the questions contributes towards test anxiety. Participant 3 further explained that he finds it hard because he does not know what answer to give. Without having the conceptual and vocabulary knowledge, they would find it difficult to respond to test questions. It is likely that they found it difficult to understand the vocabulary in class to gain the skills or knowledge to answer subsequent test questions.

Therefore, this theme represents the idea that participants' various levels of understanding impact on their response to exam question, which could in turn contribute towards test anxiety. Firstly, some students reported struggling to read the words which obviously would impact understanding. Other students reported struggling with reading comprehension which again may impact on knowing how to respond to the question. For others, it extends further than this. Some do not have the conceptual and vocabulary knowledge of the topic area to answer the question correctly.

4.4.2 Difficulties with Writing

For the second theme, some participants talked about writing which can contribute towards test anxiety. Participant 3 talked about the difficulties of having to write:

"Quite hard because there's a lot of writing and like a lot of things that I don't know the name of, so I find it hard" (Participant 3)

Participant 3 felt that writing too much can contribute towards more test anxiety. It is further exacerbated by having to write something that he does not know the name of. Linking to the previous theme, if an individual has to write about something which they do not have the conceptual and vocabulary knowledge, the uncertainty can lead to worry and anxiety. When I further probed into what else he finds tricky about writing, he explained:

"Er, like spellings and stuff like that" (Participant 3)

Participant 5 also shared similar views:

"Like writing, and I am not good in spelling" (Participant 5)

Both participants explained that spellings was a potential reason why writing was a concern for them. If they are unable to spell the words, it adds another layer of concern about how to answer the question. Additionally, they may be concerned that the teacher or examiner who marks the test may not know what they are trying to convey.

Participant 5 also talked about the amount that he needs to write:

"Like you need to write so much, and you need to read and answer" (Participant 5)

He described having to write a lot in tests which makes him worried. When there is the expectation that he needs to have a lot of words written down on his paper, this can add increased pressure. This will add to the test anxiety, especially if they are finding other skills

difficult such as spelling. Participant 5 also talked about the balance of both reading and answering the question. If he has to write a lot but also needs time to read the questions or instructions, this may add to stress of balancing both skills in order to complete it all on time. Participant 6 and Participant 5 shared further:

"Your hand aches when you write a lot and a computer it's like, you ache but you can like wait a little bit" (Participant 6)

"Time, because when it's an exam, time goes by so fast" (Participant 5)

In addition to the mental pressure of having to write a lot, for students, there may also be the added time pressure and physical impact. Participant 6 shared that when using a computer for tests, he has the opportunity to pause. However, when he writes, it may be that he is not able to write fast enough and so feels the need to continue despite his hand aching. This is because he feels under time pressure and the need to continue and so does not take a break to rest his hand. Participant 5 shared a similar view about how he thinks about the time during exams. He feels that the time goes by quickly when taking an exam which suggests the pressure of needing to write and answer the questions at a quicker pace. As such, there appears to be the physical impact and time pressures of writing which can lead to increased worry and anxiety.

Therefore, some of the difficulties surrounding writing may contribute towards test anxiety on different levels. The participants shared about having to write a lot on something they may not have knowledge on. Additionally, if they do not know how to spell a word, this can also make writing more difficult for them. There is also the added time pressure of writing within the time which can cause stress but also have a physical impact on their hands. Being able to write requires the use of multiple skills at once and if the students struggle with one of them, it is likely that they will become more worried in exams.

4.4.3 Impact of Self-concept

Many of the participants talked about how self-beliefs were potential reasons for test anxiety. Participants shared about their lack of ability with certain skills:

"I am not good in spelling" and "*I am not good at reading, I'm at 3B level"* (Participant 5)

Within the interview, Participant 5 mentioned a couple of times about how tests can cause worry and fear because he believes he is not good at certain skills. For example, he shared that he is not good at spellings and reading and was able to state which level he was at. For him, he recognised what he found difficult and was able to state the level of proficiency he was measured at. If he recognises that his ability is lower than expected, then this may cause him to worry during exams because he would feel that he is not able to achieve what is expected of him. Participant 7 also had a similar view:

"Because like I don't like English, and I need more help on it" (Participant 7)

Participant 7 stated that she worries about English tests because she does not like it but also that she needs additional help. It may be that she feels she lacks the skills or knowledge in English and so this causes some worry for her when doing the tests. To help her manage this, she feels that getting additional help would benefit her.

A few participants also talked about their self-beliefs in terms of answering questions incorrectly or getting low grades.

"Er, worried in case I get most of them wrong" (Participant 4)

"Because what if you get it wrong" (Participant 8)

Participant 4 and Participant 8 felt worried about doing maths and science exams because they were concerned that they would get questions wrong. For Participant 4, he was worried that

he would get more questions wrong than correct in his exams. It appears that both participants were concerned about their ability to do well in an exam, which leads to test anxiety. Similarly, some participants talked about getting low grades or failing:

"Because I think I will get an F grade" (Participant 5)

*"What if you get like F and a C?" (*Participant 8)

Participant 5 and Participant 8 were worried about doing tests and exams because they felt they would get low grades or even potentially fail the test. Both participants seemed to have a different view of what was considered a 'low grade'. For example, Participant 5 felt worried about getting grade F in tests, however, for Participant 8, even getting a grade C was something which concerned her. For some participants, they provided further insight into the reasons why getting a 'low grade' caused them test anxiety.

"Because I get worried if I like, for example if I get like 1 percent and other students get 100%, then I get like so scared or something" (Participant 7)

"Like if I get an F grade, what will I do? What will I say to my friends?" (Participant 5)

Participant 7 shared the potential reason why she gets worried about tests. She described the situation where she gets a low mark and other students get full marks on the test. It appears that having this obvious comparison may lead to pressure to do well and to achieve 'high marks'. Participant 5 further re-iterated the feelings of pressure and having to share with his friends about what grades he got. If he gets a perceived 'low grade', he is unsure how he would explain this to his friends. It may be further exacerbated by his friends' expectations, and if they assume he will get 'higher marks'. When questioned further about what she would do, Participant 7 explained:

"I just go quiet. Sometimes I have like paper tests, I just go and hide my mark and grade." (Participant 7)

Achieving a perceived 'low mark' and seeing others achieve 'high marks' on a test or exam appears to lead to feelings of shame. When she is given her paper tests back, she would try to hide it so that others around her cannot see what mark or grade she got. She also describes how she will 'go quiet'. This demeanour of being quieter further illustrates how she does not want to draw attention to herself if she feels she has not done well in a test. Participant 5 also described something similar:

"Because I think I will get an F grade and then the whole class will laugh at me" (Participant 5)

"Because if I get an F grade, and then they will all laugh at me. Or my neighbour's sons will laugh at me (Participant 5)

Both of these quotes shared by Participant 5 further demonstrates that when he feels like he will get 'low grades', this could impact on his self-esteem. He talks about how everyone would laugh at him, including the children in his class and even those within his neighbourhood. There is a clear worry about what others think and the feelings of shame about not doing well. If they do not do well, then there is the fear of being mocked by peers which would contribute towards test anxiety.

Therefore, the participants talked about how various aspects their self-concept may contribute towards test anxiety. For some participants, they felt that they were not 'good enough' in certain subjects which they felt would impact their test performance. In addition to this, some had a fear of getting low grades or even failing which suggests that they felt there was prospect of not doing well. What further exacerbates these worries is feeling that there is a

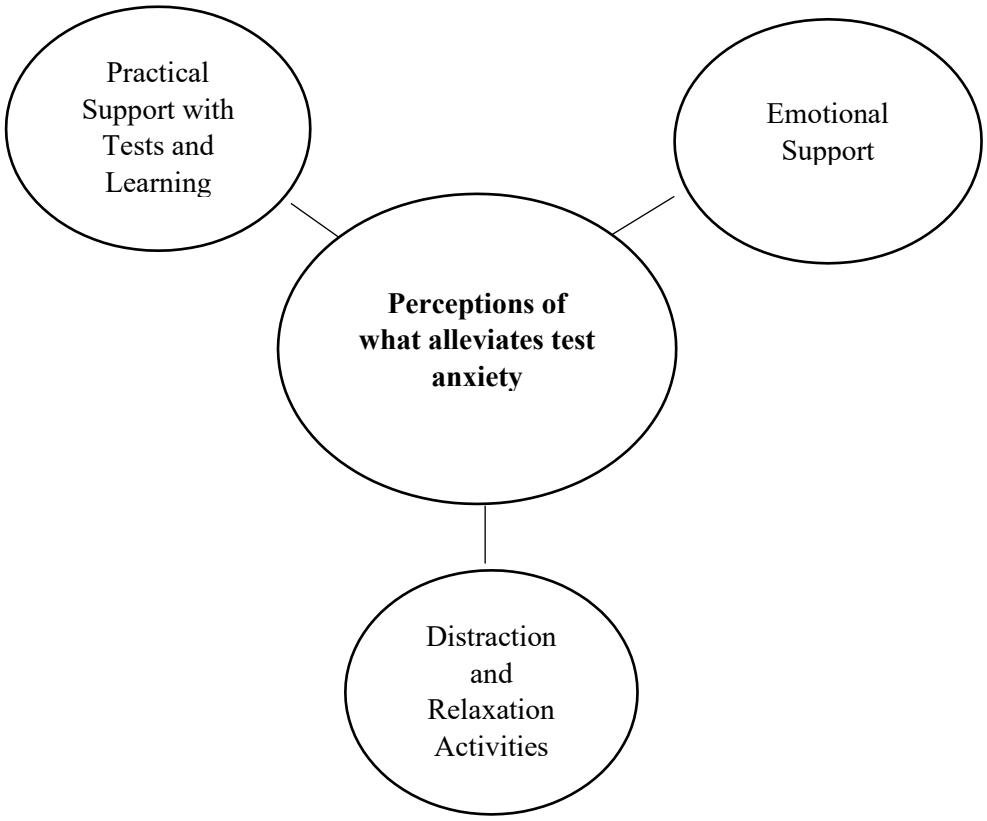
comparison between peers and the concern that they may be mocked. As such, there is a feeling of shame at getting low grades which means that taking test is a worry for them.

4.5 Research question 4: For students with learning difficulties, what do they perceive alleviates test anxiety?

In terms of research question four, there were three themes which were found that students with learning difficulties perceived alleviates test anxiety as shown in figure 7.

Figure 7:

Themes for Research Question 4



4.5.1 Practical Support with Tests and Learning

For the first theme, some of the participants shared about how school staff and family members provide practical support during the tests in order to alleviate test anxiety.

*"Yeah, like they will read the answers sort of thing. If I'm not sure, they will tell me some of the words, like some of them" (*Participant 4)

"And sometimes they read out the question if you can't read it" (Participant 6)

Both participants explained how school staff will help them in the test by reading out the test question for them. They may also read specific words to them if they are unable to read it. Participant 6 further explains why this is helpful for them and reduces test anxiety:

"So then I can understand. If I can't read it, then I can't do it." (Participant 6)

He explained that when a school staff member reads out the question, this helps him to understand what he needs to do for the test question. He stated in a very matter of fact way that if he cannot read the test question, then it would be difficult for him to even be able to answer it. Therefore, if he understands what he needs to do, this removes the uncertainty of how to answer the test question which could also help to reduce test anxiety.

Participant 5 described how school staff provide practical support with learning prior to taking the tests:

" [...] *and they teach us which subject is coming up in the exam*" (Participant 5)

For the in-school summative tests, Participant 5 explained how some of the school staff members will help them to reduce test anxiety through teaching them about the topic which would come up in the exam. Again, this helps them to reduce uncertainty and they can be assured that they will not be tested on something which they are unfamiliar with. Participant 9 went onto explain about how school staff provide more explanations as to how to do the work:

"They like explain how to do this and you want to keep practising until you get the right score" (Participant 9)

Participant 9 described how school staff provide practical support by explaining the work to him so that he understands what to do in the test. Therefore, providing him with this academic support may alleviate the concerns about not knowing how to answer a test question. Not only does this help to reduce anxiety for the tests, but it also motivates him to want to keep practising in order to do well in the tests.

Participant 8 and Participant 3 also described how family members can also provide some practical support with learning at home:

"They tell me how to do it and then I just do it" (Participant 8)

"Sometimes, my cousin, because he has good English and my mum doesn't, so he will help me to revise. He asks me questions, I write it down and answer it" (Participant 3)

Both participants described how being supported at home with learning also helps with reducing anxiety when taking tests. This can range from teaching them how to do the work or getting support with revision.

This theme captures how getting practical support with learning at school and at home can help to alleviate test anxiety for students with difficulties in learning. This support can be during the tests whereby school staff help them to read the questions and particular words. Support can also happen prior taking the tests as school staff and family members can help them to revise or provide more teaching in order to help them understand the work.

4.5.2 Emotional Support

Participants also shared about how emotional support is an important area which could help to alleviate test anxiety. Participant 2 talked about the support she receives from her parents:

"They will just say like 'try your best' and 'don't worry about it too much, with the questions'" **(**Participant 2)

It seems that test anxiety can be reduced when parents encourage their child to do their best and to not be overly worried about tests. This may be because it places less emphasis on the grades but rather on the effort that they put in - which they can have more control over. The emotional support they give to Participant 2 is through reducing the pressure on her to achieve 'good grades'.

Participant 3 also talked about the support he receives from his mother.

"She helps me to be not sad. She talks with me, I talk to her about lots of things" (Participant 3)

When Participant 3 is worried about tests or exams, he receives emotional support from his mother. He said that he talks to her about 'lots of things' which suggests that they have an open relationship where they can share about many things. This is important for Participant 3 as when he gets worried about tests or exams, his mother can talk to him to help him to not be sad anymore. When I probed further about the other reasons 'talking' helps, he explained:

"*Erm, I get all the things inside me that worries me to someone who can help me."* (Participant 3)

Talking is helpful for him because he can share his worries. It acts as an outlet for him so that he does not have to keep his worries to himself. He also understands that if he can share it with a trusted person, they may be able to help him to solve his concerns.

Participant 9 also talked about the emotional support that school staff provide which could help alleviate test anxiety.

"They just ask you, 'are you okay with the test?'" (Participant 9)

School staff also seem to provide emotional support for Participant 9. The act of questioning provides two functions: to check whether he is feeling okay and to also give him the opportunity to share any concerns or worries that he may have. Therefore, this provides reassurance for Participant 9 that he can ask for help if he is needs it. Participant 3 shared a similar experience about support from school staff:

"They told me if you need help, just ask and we will help you" (Participant 3)

"*They help me with spellings, they told me if I need help, then I can come breaktime or lunchtime and we can help you. They give me support to do a lot of things*" (Participant 3)

The school staff also provide similar support for Participant 3. When they say 'just ask', this implies that getting help for tests and exams from them is really simple – they only need to share their concerns. Participant 3 also shared that he can go to them during any free time if he wants more help. Not only is this practical support but this can be emotional support for them as well. This is because they can be reassured that the support to them is unconditional and there is not a limit to how much they can ask for help.

Emotional support is another key factor which helps alleviate test anxiety for students with difficulties in learning. Family members provide encouragement, reduce the pressure and also

give them the opportunities to talk and share their worries. School staff also provide support through reassurance and giving them unconditional support.

4.5.3 Distraction and Relaxation Activities

For some participants, they felt that engaging in distraction activities helps to alleviate test anxiety. For example, Participant 5 and Participant 4 described the following:

"Watching videos and play Minecraft. When I am so scared, I play Minecraft to relax me" (Participant 5)

"Yeah. I play with mum" (Participant 4)

When Participant 5 feels scared about exams, he said that he would watch videos or play games to help him. This is helpful for him because it relaxes him and appears to relieve the stresses of doing tests and exams. For Participant 4, he describes spending time with his mother as a way of alleviating anxiety when taking tests. Whether it is doing activities they enjoy or spending time with others, it can act as distractions to the stressors. Participant 2 shared similar views:

"Just my pets really […] Because if I don't think about it, erm, I wouldn't feel as worried. But if I try and think of something else it would stop me thinking about the test" (Participant 2)

Participant 2 thinks about and spends time with her pets when she is worried about tests and exams. She explains that if she is doing an activity that she enjoys, then it would stop her thinking about the test. When she is not thinking about the test, then she is distracted from the associated worries. Doing enjoyable activities can act as relief or respite to the worries that come with tests. Participant 7 also described how it impacts her feelings:

"I like playing games and doing colouring. Because it's like making my feelings go away and enjoying other things" **(**Participant 7)

Not only does doing enjoyable activities act as a distractor, but she describes how it helps to remove some of the negative feelings. As she is doing something else that she likes, the positive feelings seem to override the negative feelings associated with tests. As such, this acts an emotional distractor for her.

The participants describe how doing activities and pursuing hobbies helps with managing test anxiety. It helps them to relax but also acts as a distractor so that they do not have to think about the exams. For another participant, it also acts as an emotional distractor.

CHAPTER FIVE: DISCUSSION

5.1 Introduction

In this chapter, the findings are discussed in relation to the research questions. These findings are then related to the literature that have been discussed previously.

5.2 Research question 1: To what extent do students in this sample experience trait test anxiety?

The findings from this study show that some young people with learning difficulties in cognition and learning can experience high (*N*= 2) and moderate (*N*= 4) trait test anxiety. This relates to the literature as surveys conducted in the UK have found that 72% of students feel anxious about taking exams even when they felt prepared, which was higher than average across countries (OECD, 2017). However, this study did not use a formal measure of test anxiety. Putwain and Daly (2014) utilised a formal measure of test anxiety and found that 16.4% of students self-reported as highly test anxious and 52.7% reported as moderately test anxious.

On the other hand, the findings from this study also show that not all students experience trait test anxiety. Three participants self-reported as having low trait test anxiety. Again, this relates to the study by Putwain and Daly (2014), who found that 30.9% of students self-reported as having low test anxiety. Furthermore, in a systematic review, Fong and Soni (2022) reported that some studies did not find a difference in test anxiety between those with and without learning difficulties. Some of the reasons suggested may be why the students in this study also reported low trait test anxiety. For example, if they are receiving additional support in relation to their difficulty, this may alleviate concerns about test anxiety.

Therefore, in response to the research question, some students with learning difficulties can experience high, moderate test or low trait test anxiety. However, the results do not necessarily provide a wide picture as only nine participants took part in this study. It would be important to explore test anxiety in children and young people with learning difficulties on a wider scale within the UK and so larger sample sizes would be needed

5.3 Research question 2: How do students with learning difficulties at different levels of test anxiety feel about tests and revision?

For research question two, there was a varied mixture of emotions associated with test and exams across students with low-, moderate- and high-test anxiety.

The participants with low test anxiety generally reported feeling ‘happy’, ‘excited’ and ‘good’ about taking tests. Some participants who fell in the moderate- and high-test anxiety category also reported similar positive feelings in relation to particular subjects. Similarly to the study by Chamberlain et al (2011), they found that one participant did not feel stressed or worried about taking exams. Others talked about how the ‘stress’ was a positive thing and helped them to be motivated to do the test and gave them an adrenaline rush. Whilst the participants in my study did not talk about the sense of adrenaline, the sense of excitement they describe may mirror similar feelings.

The reasons that were provided for these positive feelings included enjoying the work, liking and feeling confident about the subject. This is similar to the research by Roome and Soan (2019), who found that when students took an interest in the subject, they wanted to revise more and this helped to relieve stress associated with the exam. Furthermore, Putwain (2009) found that test anxiety was negatively related to the perception of their ability in that subject

and von der Embse et al. (2018) found that high self-efficacy (i.e. belief in their own ability) was related to lower test anxiety. Therefore, it may be that tests and exams can elicit positive emotions for some students with learning difficulties because they enjoy that particular subject, in a similar way to students without learning difficulties. Since they find the topic enjoyable, they may want to engage with the subject more and this will lead to more positive feelings despite having to take tests. Additionally, for some students with learning difficulties, if they feel confident in their own ability and have higher self-efficacy, they may also not worry about tests. This is because they may believe that they have the ability to answer the questions.

Other reasons that were presented by the participants include getting help from peers and school staff and not having to write as much. These are some potential strategies which may help to alleviate any test anxiety for students. These relate to previous research about writing difficulties (O'Rourke et al., 2018) and receiving support (Roome & Soan, 2019). Further discussion about these factors will be detailed below.

On the other hand, many of the participants in the high and moderate test anxiety category reported feelings such as 'worried', 'nervous', 'confused' or 'scared' for both tests and revision. This relates to previous studies as Roome and Soan (2019) found that GSCE students reported feeling 'depressed' and 'stressed' when taking tests. Furthermore Chamberlain et al. (2011) also found that A-level students reported that revision was inherently stressful and the workload increased their anxiety. Therefore, students with learning difficulties may share similar negative feelings around tests and revision compared with those without learning difficulties. Furthermore, since this current study explored

students in Year 7 and 8, it is clear that regardless of age, these feelings around tests and exams can still persist.

Interestingly, one participant who reported low trait test anxiety stated that he did not feel worried when he takes 'small tests', however, he did feel a bit worried when taking the 'main tests'. 'Small tests' could be interpreted as in-school summative tests whereas 'main tests' could be interpreted as high stakes exams (i.e. exams that affect further studies and employment such as national exams). Previous research has also found that primary school children had higher levels of anxiety when taking high stake exams (Segool et al., 2013). Linking to the Integrative Transactional Model of Test Anxiety (Zeidner, 1998), individuals will have varying predispositions of trait test anxiety and different levels of state test anxiety. Even if an individual has low trait test anxiety, the different characteristics of a test (i.e. high stakes) could also elicit some state test anxiety within that context. For the participant in this study, whilst he reports having low trait test anxiety, he may find that when he is taking high stake tests, this increases his state test anxiety.

Therefore, in response to the research question, there are mixed emotions around tests and revision across those with low, moderate and high trait test anxiety. It is important to recognise that some students with learning difficulties, especially in cognition and learning, will experience negative feelings and some will experience positive feelings. It is about recognising the factors that are eliciting such emotions in relation to test and exams and either increasing or decreasing these in order to support the students.

5.4 Research question 3: For students with learning difficulties, what do they perceive contributes towards test anxiety?

In this section, I will explore what the participants felt contributed towards test anxiety. I will discuss each theme in relation to the literature on difficulties in understanding and writing and the impact of self-concept.

5.4.1 Difficulties with Understanding

The participants in this study reported that difficulties in understanding can contribute towards test anxiety. When they do not understand, this ultimately means that they do not know how to answer the test question which increases anxiety when testing. However, there are different levels to their difficulties in understanding.

Firstly, one participant reported that he struggles to read the words within the questions. On another level, even if individuals are able to decode the words and sound them out, a few participants reported that they struggle to understanding the meaning of the words. If an individual is unable to read the words in a test question and understand what it means, this will impact on their ability to know what to do in order to respond to the question. On an even deeper level, some participants talked about their knowledge and understanding within the topic area in order to answer the question. Similarly, without the subject understanding, it would be difficult to know what is being asked and how to respond.

For students with learning difficulties, specifically in relation to cognition and learning, they can have difficulties in the foundations of test taking skills such as reading comprehension (Solis et al., 2012). The difficulties mentioned by the participants in this current study are similar to the current literature. Students with learning difficulties may find it difficult to

decode words because they have difficulties with working memory (Whitbread et al., 2019). They can struggle with holding the information to associate the letter/letter combinations with the correct sound whilst verbally sounding these out. Moreover, students with learning difficulties may not have the vocabulary knowledge to recognise what they are reading. This will especially be the case for Tier 2 (i.e. general academic words which require examples to explain the meaning) and Tier 3 words (i.e. domain-specific academic words) (Beck et al., 2013). Tier 2 words are not always explicitly taught and they are important for understanding academic texts and questions (e.g. examine) (Bauman & Graves, 2010). For students with learning difficulties if they do not have the academic vocabulary knowledge, whether general or domain-specific, it will impact on their ability to comprehend text, to understand subject content and to subsequently answer test questions.

Therefore, having difficulties with reading, comprehension and subject knowledge will all impact understanding and as such the ability to undertake tests and exams. In turn, having this lack of understanding is clearly one aspect which contributes towards test anxiety as shared by the participants. This relates to the 'perception of the test situation' element of Zeidner's (1998) Integrative Transactional Model of Test Anxiety. The difficulties experienced by the participants could be perceived as threatening and as such impacts on test anxiety levels. Additionally, some of the participants in this study were aware of their difficulties, leading to heightened anxiety within tests and exams. This links with the research on self-efficacy. If an individual feels that they are unable to achieve due to their difficulties with understanding, this can further impact on their feelings of stress and anxiety (Schönfeld et al., 2016)

5.4.2 Difficulties with Writing

The participants in this study also reported that difficulties in writing can contribute to levels of test anxiety. There are various reasons why writing exacerbates test anxiety, including the content of the written work, mental, physical and timed pressures.

Firstly, participants talked about the content of their written work which includes the conceptual knowledge and spellings. One participant talked about how he did not know some vocabulary which meant he did not know what to write down. Others talked about the difficulties in spelling words which added another layer of worry about answering questions. This relates to the research mentioned previously as students with learning difficulties may struggle with vocabulary and as such, what to put in their answers (Beck et al., 2013; Bauman & Graves, 2010). Furthermore, some students will also struggle with spellings due to difficulties in phonological awareness (i.e. sound structure of words) (Bailey et al., 2021). Therefore, if students find writing the content difficult, this can cause worry and anxiety for them.

Moreover, some participants talked about the mental pressure of writing. One participant talked about how there is a need to balance lots of different skills including reading, writing and understanding. The pressure of trying to use all of these skills at once may cause anxiety when taking tests. Research shows that writing is complex and requires multiple skills and if students with learning difficulties struggle with working memory, it will impact on them retaining information necessary to complete the task (O'Rourke et al., 2018). Furthermore, if they need to use their processing memory to attend to lower order skills (e.g. spelling), it would interfere with the higher order skills such as generating ideas to write (Graham, 1999). This will further exacerbate their processing in knowing what to write for their answers.

Additionally, tests are usually time bound and so students can feel the pressure to write quickly which can impact on their levels of anxiety in tests too. Linked to this, one participant talked about how writing a lot can have a physical impact on him, causing his hand to ache. It is likely that because he feels the pressure to continue to write under time constraints, he is unable to rest his hands. Research has shown that the timed element of tests is related to test anxiety (Stevens, 2000; Lewandowski et al., 2016). Qualitative research also showed that participants' anxieties increased when they felt there were unable to complete the test on time (Chamberlain et al., 2011). The added pressure of writing under time constraints clearly exacerbates test anxiety as students may feel that they are unable to complete the test, which will have a negative impact on what they will score or achieve.

Therefore, having difficulties with writing may contribute towards test anxiety as students with learning difficulties may struggle with the written content and not know how to answer the question. They may also have the mental pressure and struggle of balancing multiple skills in order to execute the action of writing an answer down. This coupled with time pressure will further exacerbate test anxiety. Again, this relates to the 'perception of the test situation' element of Zeidner's (1998) Integrative Transactional Model of Test Anxiety. The difficulties with writing could also perceive as threatening which could increase test anxiety levels. Furthermore, if they recognise their difficulties, this can impact on their self-efficacy and as such, their stress and anxiety levels (Schönfeld et al., 2016).

5.4.3 Impact of Self-concept

Some participants also reported that self-concept could contribute towards test anxiety. This includes the participants' beliefs about their own ability, answering questions incorrectly and the fear of failure. When students have 'negative' self-beliefs, it is further exacerbated by comparisons between peers and others mocking them.

Participants shared how they felt they were not good at certain subjects and academic skills (e.g. spelling) or felt they needed additional help on subjects, which contributed towards test anxiety. This links to previous research which explores how self-efficacy (i.e. belief in own ability to complete a task) and self-esteem (i.e. individual's perceived value of themselves) are related to test anxiety. von der Embse et al. (2018) reported in their meta-analyses that self-esteem and self-efficacy consistently had the strongest negative relationship with test anxiety, that is the lower the self-efficacy or self-esteem, the higher the test anxiety. There was a similar pattern found for students with learning difficulties in relation to self-esteem (Peleg, 2009). This finding links to the 'personal variables' element of Zeidner's (1998) Integrative Transactional Model of Test Anxiety, whereby specific characteristics link to levels of test anxiety. Furthermore, Alesi et al's (2014) description of the 'Matthew effect' could explain the relationship between self-efficacy/self-esteem and test anxiety. When children with learning difficulties struggle with learning, they will have these negative perceptions such as low self-esteem and self-efficacy. To avoid these feelings, they may choose to avoid learning which stops them from developing the academic skills. This then furthers their difficulty and so may be become more anxious when having to take tests to assess their understanding and ability.

Leading on from this, some participants talked about how they were worried about the comparison between peers. One participant shared how she will often go quiet and hide her test paper and another shared that other children will mock him if he gets a low grade. Research has found that perceived external pressures can lead to increased worry concerning exams and tests. Room and Soan (2019) noted that pressure can come from peers when they make comparisons with each other. There is also the period of time just before exams when students can talk about what they have revised or not, which further increased anxiety levels

(Chamberlain et al., 2011). This is because there is that comparison of not revising enough which could impact on them doing well in the exam. Hiding grades from peers also suggests a feeling of shame of not doing well which is similar to the study by McGregor and Elliot (2005) who found that shame was positively related to feelings of failure. They suggest that this may be because positive regard that is dependent on success from significant others (e.g. parents and peers) may lead to avoidance and shame when failure occurs. Therefore, the perceived comparison between peers may be a reason why students with learning difficulties experience test anxiety.

Moreover, some participants also talked about worrying about answering questions incorrectly and subsequently getting perceived low grades. This fear of failure meant that their test anxiety was higher. Research has found that students can worry about exams due to its high stakes (Putwain, 2008b). They are aware of the consequences of not doing well and some feel that their future depends on how well they perform (Chamberlain et al., 2011). Moreover, using fear appeals (i.e. encouragements which highlight the consequences of failing tests), further exacerbate students' worry when taking tests (Putwain & Symes, 2010). As mentioned previously, fear of failure can be exacerbated when the individual's success dictates positive regard from others (McGregor & Elliot, 2005). Therefore, students with learning difficulties feel that fear of failure contributes to test anxiety because they may be aware of the pressure of the high stakes and also that their conditions of acceptance is dependent on their success.

Therefore, for students with learning difficulties – various aspects of self-concept can contribute towards test anxiety. It will be important to support students to help them increase their self-efficacy and self-esteem. This is also important as low levels of self-efficacy and self-esteem have been found to be related to poorer mental health (Mann et al., 2004;

Schönfeld et al., 2016). There should also be a reduction on pressure and focus on grades as this will help students to recognise that how they are regarded is not dependent on how well they achieve in a test or exam.

5.5 Research question 4: For students with learning difficulties, what do they perceive alleviates test anxiety?

In this section, I will explore what students with learning difficulties feel alleviates test anxiety. These areas all relate to the 'coping reaction' element of Zeidner's (1998) Integrative Transactional Model of Test Anxiety. I will discuss each theme in relation to the literature on practical and emotional support with tests and distraction and relaxation activities.

5.5.1 Practical Support with Tests and Learning

The participants reported that being provided with academic support can help alleviate test anxiety. School staff can provide support before and during tests, and some family members can also provide support with learning.

Two participants talked about how school staff provide support during the exam to alleviate test anxiety. The school staff help them to read some of the words if they struggle to and one participant noted that he would be unable to answer the question if he cannot read it. One participant also talked about how school staff will teach them the topic which will come up in in-school summative tests beforehand. They will also provide explanations for the work. This helps to reduce uncertainty about not knowing about the topic. Some participants also discussed how family members can provide similar support.

These findings are similar to previous research including Custodero (2013) who found that students with learning difficulties who perceived they had low levels of support, tended to have higher test anxiety. Other research noted that teacher support was especially helpful (Yildirim et al., 2008). Students explained that school staff helped them because they explained the work which helped them to worry less about tests (Roome & Soan, 2019).

Therefore, providing academic support for students with learning difficulties may help to alleviate test anxiety for them. This can be through providing support beforehand by taking time to explain the work so that they do not feel uncertain about what will be in the test. This can include teaching them test-specific vocabulary (e.g. compare and contrast) and test formats, so they know what is expected of them. Furthermore, during the test, for some students, reading the question for them could also help them so they can know what is being asked of them.

5.5.2 Emotional Support

The participants also shared how getting emotional support from family and school staff helped with alleviating testing anxiety. One participant talked about having the opportunity to talk with family members was beneficial. This is because talking helped him to share his worries and concerns to people who could help him. Moreover, some students described how school staff gave them the opportunities to seek unconditional help. They were able to seek help with academic work when they needed it. The findings link with the previous theme. When students felt they are able to talk about their concerns and get support for their worries, this alleviates test anxiety. In relation to test anxiety, students would likely be seeking

academic support and as mentioned previously, this support is related to lower levels of test anxiety (e.g. Custodero, 2013).

One participant talked about how her parents provided her emotional support by saying that she just needs to try her best and that she does not need to overly worry about the test and exams. This shows that her parents are not putting too much focus on academic achievement and what marks she is achieving. Instead, they are focusing on her effort which she has control over. This link to research by Otterpohl et al. (2019), who found that when parents provided more affection to children who achieved well, this meant that their self-esteem was more dependent on approval from others. In turn, this related to higher test anxiety. This also links with the previous theme 'Impact of self-concept' as it is important to help students feel that their acceptance is not based upon grades as effort is more important.

Therefore, for students with learning difficulties, getting emotional support is important for test anxiety. This emotional support links with knowing they are able to access help if needed, for example academic support for their learning. Furthermore, it would also be important for adults to not put too much pressure on students regarding grades and instead to highlight effort, especially if they feel that they are only positively regarded based on high grades in exams or tests.

5.5.3 Distraction and Relaxation Activities

For the last theme, participants describe how engaging in distraction activities can alleviate test anxiety. This can include doing activities they enjoy such as playing games and arts and crafts. For other participants, spending time with significant others is also helpful such as playing with family members or spending time with family pets. In addition to pursuing

hobbies, some participants talked about how these activities acted as a distractor for them. This means that they were able to stop thinking about the worries of tests and exams, and it helped remove these feelings for them.

With regards to previous research, different forms of distraction activities have positive and negative effects. Student who felt there were unrealistic expectations set on them, tended to engage in irrelevant thinking which distracted them (Weiner & Carton, 2012). This led to higher test anxiety. On the other hand, engaging in leisure activities can be a form of relaxation for some individuals which reduces anxiety (Fullana et al., 2020). This is because it can enhance their quality of life by providing a better school/life balance and provides some diversity for them (Lee et al., 2012). For the participants in this current study, they engage in activities they enjoy which mean they are likely to be reaping the positive effects of distraction activities. Subsequently, it may help to alleviate test anxiety.

5.6 Summary

In summary, students with learning difficulties, specifically in relation to cognition and learning, can experience different levels of trait test anxiety – some will experience high, moderate and low trait test anxiety. The students also reported a wide range of feelings associated with tests, exams and revision across the different levels of trait test anxiety. Those with low trait test anxiety generally reported feeling ‘happy’ or ‘good’ about taking tests and revision. The reasons include having an interest or feeling confident about the subject. Others reported more ‘negative’ emotions associated with test and revision. One felt these emotions only for high stakes tests. However, because only nine participants took part in

the study, more research would need to be conducted in this area of students with learning difficulties.

There are various factors which are perceived to contribute towards and alleviate test anxiety regardless of trait test anxiety levels. This idea links with the Integrative Transactional Model of Test Anxiety developed by Zeidner (1998). He explained that there are various elements which interact that impacts their levels of test anxiety. For this study, difficulties with understanding, difficulties with writing could be considered as the 'perceptions of the test situation' in the Integrative Transactional Model of Test Anxiety (Zeidner, 1998). Self-concept can also be considered as relating to the 'personal variables' element of Zeidner's (1998) model. Practical support with tests and learning, emotional support and distraction and relaxation activities were also perceived to alleviate test anxiety. These relate to the 'coping reactions' of Zeidner's (1998) model. The implication of these will be further discussed in the conclusion section.

CHAPTER SIX: CONCLUSION

6.1 Introduction

In this chapter, I summarise the findings and explore some of the implications for educational staff and educational psychologists. Next, I provide some of the strengths and limitations of the study and end with future directions for research.

6.2 Summary of Findings

Students with learning difficulties in cognition and learning, can experience high or moderate trait test anxiety. For some students, they experience low trait test anxiety. This mirrors the extent to which students without learning difficulties experience test anxiety (Putwain & Daly, 2014). Therefore, as not all students experience high or moderate trait test anxiety, it would be important to identify individuals who do to provide them with more targeted support. However, this only measured trait test anxiety and some students may also experience state test anxiety when in a specific testing situation which is further described below.

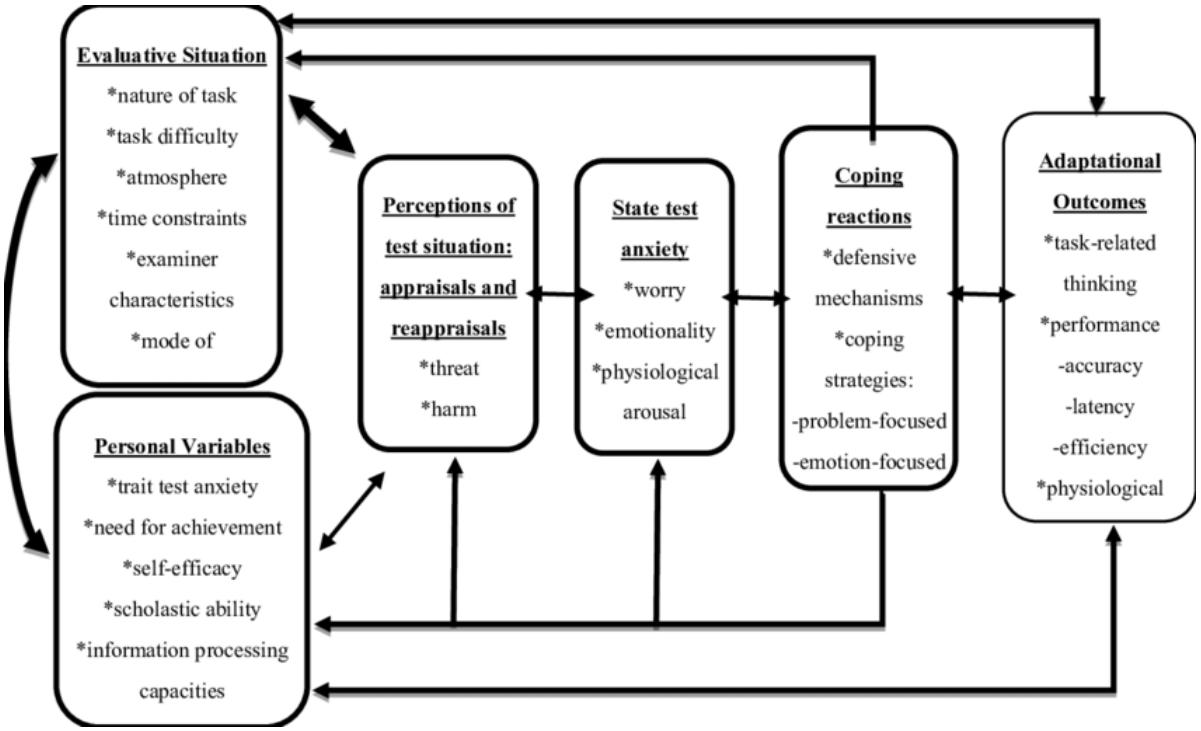
The students also shared different feelings associated with tests and revision across the different groups (i.e. high-, moderate- or low- trait test anxiety). I found in the study that those with low test trait test anxiety tended to feel positive feelings associated with tests and revision. Some of the students with moderate to high test also reported some positive feelings. The reasons they reported was because they liked the subject topic of the test and enjoyed doing the work. They also felt confident about the subject. Therefore, it may be that for students with learning difficulties, it would be important to foster their enjoyment of the lessons through factors including teachers' enthusiasm, maintaining a sense of fun and excitement whilst learning (Frenzel et al., 2009; Ainley & Ainley, 2011). This will also help with their work at home e.g. revision. Furthermore, enjoyment will help increase academic

self-efficacy and confidence which is negatively related to test anxiety (von der Embse et al., 2018).

Some of the students with moderate to high trait test anxiety reported varying negative feelings with regards to tests and revision. One student who rated himself as having low trait test anxiety also noted that he experiences worry when he takes part in high stake tests. This is important to note because even though students may rate themselves as normally having low trait test anxiety, they may still experience state test anxiety for certain testing situations which links with the Integrative Transactional Model of Test Anxiety (Zeidner, 1998) (see figure 2). Therefore, it may be that a universal approach is needed to support students with learning difficulties in general. However, for those with higher levels of test anxiety, they may need more targeted support.

Figure 2:

Integrative Transactional Model of Test Anxiety (Zeidner, 1998, p. 19).



Therefore, since it is possible that any student can have state or trait test anxiety, it was important to explore what all participants perceive as alleviating and contributing towards it. There are many elements which can contribute towards test anxiety which links with Zeidner's (1998) Integrative Transactional Model of Test Anxiety. Specifically for my study, I found the participants talked about factors within the 'personal variables' and 'perceptions of the test situation' elements (see Figure 2).

Firstly, participants talked about their test-taking skills such as reading comprehension and writing. Participants talked about difficulties with understanding which related to their reading comprehension and subject knowledge. It would be important to explicitly teach students with learning difficulties the various Tier 2 (i.e. general academic words which require examples to explain the meaning) and Tier 3 words (i.e. domain-specific academic words) (Beck et al., 2013). This will help them to understand academic language for learning and for test taking. Others talked about their difficulties with writing, whether that was from the pressure of balancing multiple skills to execute the action of writing an answer or from the time pressure. For such students, they would benefit from practising writing under timed conditions and other test-taking skills such as planning their answers and so on. This could help alleviate anxiety for test and revision.

Participants also talked about their self-concept, in relation to what alleviates test anxiety. For example, they talked about how they felt they had low ability levels in certain academic skills or subjects. Self-efficacy and self-esteem are both important factors in relation to test anxiety and learning. It is possible that children with learning difficulties will struggle with learning, further exacerbating their self-beliefs and in turn test anxiety (Alesi et al., 2014). Therefore, supporting students' beliefs about their own skills and self-confidence would be beneficial. Furthermore, others felt the pressure of comparison between peers or achieving lower marks

and even failing. This will be due to the nature of high stakes test and also feeling that achieving high marks dictates conditions of acceptance (Putwain, 2008b; McGregor and Elliot, 2005) As such, it is important to support young people to understand that their worth is not dependent on grades.

In terms of what supports students with learning difficulties to alleviate test anxiety, there were various factors also related to the 'coping reactions' element of Zeidner's model (see Figure 2). Coping reactions includes an individual's cognitive and behavioural methods of managing the stressful responses and emotions. Students shared that receiving academic support was useful as this helped them to understand the work and would also alleviate any uncertainty regarding the contents of the tests. Furthermore, receiving emotional support also was beneficial as they could talk to people that could help them. Others engaged in activities they enjoyed which help them to relax and to not think about tests and any associated strong feelings of anxiety.

6.3 Implications

In this section, I discuss the implications of the results from this study. This will be in particular relation to educational staff and educational psychologists.

6.3.1 Implication for Educational Practice

This current study has highlighted various implications for educational practice in relation to test anxiety for students with learning difficulties.

As there are differing levels of test anxiety and feelings associated with tests and revision, it would be important to provide different levels of support depending on the need. As exams are inevitable for all students, it is likely that they may experience some levels of stress and anxiety, regardless of whether they have high levels of test anxiety or not. As such, it would

be beneficial for educational staff to provide a universal approach to support all students. Based on the findings from the study, this could include promoting enjoyment of subjects including factors such as teachers' enthusiasm, maintaining a sense of fun and excitement whilst learning (Frenzel et al., 2009; Ainley & Ainley, 2011). It could also include encouraging them to continue with activities they enjoy to promote relaxation. Additionally, based on the findings from the study, students with learning difficulties in cognition and learning also reported difficulties with understanding (i.e. reading comprehension and subject knowledge) and writing. Therefore, educational staff could focus on these academic skills in order to support them with their understanding and as such, help to reduce test anxiety. This is related to research by Swanson and Howell (1996) as study skills was found to be linked to test anxiety. These academic skills can include teaching more Tier 2 and 3 vocabulary words and promoting the use of multiple academic skills (e.g. reading, writing) within time limits. It would also be important to support with promoting higher levels of self-esteem and confidence in their learning and ability.

Educational staff would also need to be able to highlight students with learning difficulties in cognition and learning who may be susceptible to higher levels of test anxiety. For such students, a more targeted approach may beneficial. As there are many different elements and factors which can impact on test anxiety, a bespoke approach would target the factors which are impacting test anxiety. These targeted interventions could support with anxiety and develop their cognitive skills (von der Embse et al., 2013).

6.3.2 Implications for Educational Psychologists

There are also some implications for educational psychologists. Firstly, they are able to provide indirect support through training the adults. For example, educational psychologists can provide training to educators and families on test anxiety to provide more wide-reaching

support to all. It would be beneficial to raise the awareness of test anxiety for children and young people with learning difficulties, and the potential risk and protective factors highlighted in this research. Increasing their knowledge would mean that they are able to be proactive in supporting students, especially for those who may be going through pressures of high stakes exams and tests.

Where additional support is needed, educational psychologists could provide consultations with educational staff. By providing consultations, educational psychologists could work with staff to problem solve on specific cases or groups of students which are more complex to further understand how best to support students academically or emotionally. Moreover, policy makers could consult educational psychologists regarding the impact of tests and exams. This may help to inform future developments and support for children and young people.

As a trainee educational psychologist, I have also had the opportunity to work directly with children and young people who have test anxiety through psychoeducation. Therefore, where opportunities are available, educational psychologists may need to provide one-to-one or groups interventions to support students with learning difficulties and their test anxiety. As such, the findings of this study could inform the support provided to these young people, that is what the risks and protective factors are.

Finally, educational psychologists could engage in more research in this area to further understand the risks and protective factors of test anxiety for different groups and cohorts of students. If more is understood, then this could inform the support provided to these students.

6.4 Critique of the Study

This current study has various strengths. Firstly, the findings of the study add to existing literature as to my knowledge, no studies within the UK have explored test anxiety in children and young people with learning difficulties. More specifically, no studies have used a mixed method approach to further the understanding of this phenomenon. I was able to use both quantitative and qualitative methods in order explore the views, perceptions and feelings of students with high-, moderate- and low-test trait anxiety around tests and exams. As such, I was able to explore reasons why some students may have low test anxiety and feel positive emotions around tests.

Another strength of the study is that I was able to explore some of the factors which may contribute towards or alleviate test anxiety for students with learning difficulties in cognition and learning. Again, to my knowledge, there has been no research exploring these themes in relation to test anxiety for those with learning difficulties. This is especially important as more children and young people with learning difficulties are experiencing mental health difficulties compared to their peers (Lavis et al., 2019).

Another strength of the study is that I was clear with my quality assurance measures. My methodology, including my data analysis was clearly stated so that what I did within this study was transparent. Furthermore, my positionality was stated at the beginning to further recognise that there is research interpretive bias.

However, there are several limitations which should be noted. I did not analyse what participants felt contributed towards and alleviated test anxiety within each group (i.e., high, moderate and low trait test anxiety). Doing so may have provided insight to the different

views for each group. This was because there were not enough participants within this study who fell within each group, and as such would not have given rich themes.

In addition, I did not ask about all elements of Zeidner's (1998) Integrative Transactional Model of Test Anxiety due to the volume of data it would have produced. For example, I did not ask participants about the physiological aspects of test anxiety as it can be difficult for children to understand the link between physiological responses with psychological causes (Notaro et al., 2001). Furthermore, the model does not necessarily provide explanations for why the various elements contribute towards test anxiety. Therefore, I needed to use additional theories and models to explain the findings within my research. For example, I used Alesi et al's. (2004) 'Matthew effect' to discuss why self-esteem was related to test anxiety.

Another limitation was using verbal interviews as my main approach for particular participants. Whilst I used some visual aids in order to support the participants to express their views, for some, they found it difficult to provide explanations. They were able to provide simple answers but found it difficult to elaborate when I probed further. As such, using a different approach to collect data may have been easier for them to access such as through the use of drawings (Horstman et al., 2008).

Moreover, there are also some limitations to using the visual aids. Whilst the main objective of using visual aids was to act as prompts to help them think of their own answers, there is a chance that this could have inadvertently influenced what they shared with me. However, it was also important and ethical to give them support where necessary to facilitate the verbal discussion when they are struggling (Lewis, 2004). Therefore, I made sure to only share the

visual aids if I felt that they were struggling with answers and I also prompted them to expand on their answers, where possible.

Finally, seven out of the nine participants in this study were of Indian-Asian heritage which reflects the school they attended. I took this into consideration when choosing to use the CTAS as it was created using an ethnically diverse sample. However, I did not consider this with regards to my discussion and findings. The primary reason is because the participants did not mention this as a key theme or factor in relation to their views about tests. However, culture should be considered in future research as it is likely to play a part in the testing experience (Bodas & Ollendick, 2005).

6.5 Future Research

Future research could improve on this current study in various ways. As mentioned previously, I did not consider all elements of Zeidner's (1998) Integrative Transactional Model of Test Anxiety. Other elements (e.g. physiological reactions and task-irrelevant thoughts) could also be explored using qualitative methods in order to fully understand the experiences of test anxiety for students with learning difficulties in cognition and learning.

Furthermore, there were many different characteristics or criteria which was not considered. For example, the participants in my study had a learning difficulty in the area of cognition and learning. However, there are many other difficulties which was not considered as part of my research. Other areas which can be explored further include autism, as they are a group who can also experience high levels of anxiety (Halim et al., 2018). Moreover, as mentioned in my limitations, I did not consider how ethnicity and culture would a play a part in the experiences of test anxiety. This is something which could be explored further (Bodas & Ollendick, 2005).

Additionally, I only interviewed students who were in Year 7 and 8. The experiences of test anxiety may be different for older and younger children. It may be interesting to explore the experiences of test anxiety for young people with learning difficulties who are expected to take GCSEs as they may also receive access arrangements to support with testing and learning (Woods, 2007).

Finally, research could further explore the differences in views about test anxiety across the groups (i.e. high, moderate and low test anxiety). This would be useful as it may shed further light on the reasons why some are more anxious or not anxious about tests and exams compared with others. This would help researchers and educators to promote the protective factors and aim to reduce any risk factors.

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APPENDICES

Appendix A: Information Sheet for Headteachers

UNIVERSITY OF BIRMINGHAM

Research Study Title: Using mixed methods to explore anxiety in young people with difficulties in learning

Dear_____,

My name is Haley Fong and I am a Trainee Educational Psychologist in my second year of full-time, postgraduate study at the University of Birmingham. I am currently on placement at X and am writing to you to request your consideration to allow me to recruit participants at your school.

What is the research project about?

The aim of the research is to explore test anxiety in young people, attending a mainstream secondary school, with difficulties in learning. I would like to speak with young people in Year 7 or 8. Through this research, I aim to understand their experiences of test anxiety, what factors impact their levels of test anxiety and what support can be provided to help them. Ultimately, the research aims to help to promote positive outcomes for young people with difficulties in learning who may find test and exams challenging.

The research questions I plan to answer are:

5. To what extent do students in this sample experience test anxiety?
6. What are the experiences of test anxiety for students who have difficulties in learning?
7. For students who have difficulties in learning, what aspects of tests do they find most anxiety provoking?
8. For students who have difficulties in learning, what support has helped alleviate the anxiety?
9. For students who have difficulties in learning, what coping strategies are used to alleviate anxiety?

Participant Criteria

Inclusion Criteria

- **Can be female or male students attending a mainstream secondary school.**
- **Students in Year 7 or 8**
- **They should have had assessments/tests within school.**
- **The students will have some learning difficulties as defined by working at 3 years below age expected levels. (Note: Leicester City Council criteria for SEN support are students working 2+ years below current age).**
- **If students have English as an additional language, they should be at Stage E (Fluent)**

- **Be able to communicate and discuss how certain topics make them feel (e.g. tests)**
-

Exclusion Criteria

- **Has any sensory impairments (E.g. hearing impairment, visual impairments)**
- **Students with English as an additional language in stage A (New to English), stage B (Early Acquisition), Stage C (Developing competence) and Stage D (Competence)**
- **Has an Education, Health and Care Plan.**
- **Has a formal diagnosis e.g. autism, ADHD, SLI, dyslexia, dyspraxia**
- **Has a formal mental health diagnosis**
- **Has involvement with Children and Adolescent Mental Health Service**

What will happen if you agree for me to recruit participants at your school

If you agree for the me to recruit participants at your school, I will contact the SENCo at your school for them to highlight any potential participants. I will then ask the SENCo to speak to the student to see whether they would like to take part in the study and to show them an information sheet for students. If the potential participant expresses an interest, I will then send the information sheet to relevant parents with a letter to request for their child to be involved in the study. A consent form will also be provided so that parents can return this if they agree for their child to take part.

There will be up to 3 sessions with potential participants. These sessions will take place in person at school or on a video platform depending on the situation of the pandemic.

First Session

The first session will give me the opportunity to make sure that the participants understand the study, to assess whether they can access the activities for the main data collection session and to build a rapport. I will meet the potential participants to speak with them about the study and to verbally run through the participant information sheet. This will also give them the opportunity to ask questions. This will help me to understand whether I feel that they can access the activities in second session. If I judge that participants can access the activities, I will invite them to the second session to complete data collection.

If I feel that a student **can** access the activities and therefore take part in study, I will ask them to sign a consent form.
If I feel that a student **cannot** access the activities and therefore be unable to take part in the study, I will send a student and parent letter via the SENCo to thank them for their time in the first session.

Second Session

The second session will involve filling out a questionnaire and I will also conduct an interview with them.

If I notice that the participant is becoming fatigued after completing the questionnaire, I will not complete the semi-structured in session 2. I will come back for a third session to complete the semi-structured interview.

I anticipate that this research will be beneficial, since very little research has been undertaken exploring test anxiety in students with difficulties in learning. The research will help to gain a better understanding of what factors impact their test anxiety and what can be done to help them.

What will taking part involve?

If consent from parents and the participant is obtained, in the second session, I will complete a questionnaire with them called the 'Children's Test Anxiety Scale'. I will then conduct individual interviews with the participants, which should last between 30-45mins, although it should be noted that this would vary depending on the level of detail each participant wishes to offer. The interview will consist of questions which explore their experiences of tests, their feelings towards, what parts of tests causes them to have anxiety/worry and what can be done to help them. I will provide visuals to support the participants with answering the questions. The participant will not be expected to answer any questions they do not wish to. They can terminate the interview at any juncture, should they so wish. Interviews will be audio-recorded and subsequently transcribed.

The greatest care will be taken to safeguard participant confidentiality and data security at all stages of the study, in line with the rigorous requirements of the University of Birmingham Humanities and Social Sciences Ethical Review Committee, by whom this proposed study has been approved.

If the participant agrees to take part, can they change their mind?

Yes, if a participant decides they no longer wish to take part in the research, they can withdraw their data up to two weeks after the date of their interview, either by speaking to me in person or asking parents/SENCo to contact me. They will not be expected to 'justify' or provide a reason for any such decision to withdraw; such requests would simply be respected.

What will happen to the data collected during the interview?

Interview data will be treated as confidential. The names of participants will not be reported, nor will any identifying information (e.g. names of other individuals, the school, organisations or geographical locations etc.).

As is always the case in schools, confidentiality may need to be breached if a disclosure is made which suggests that a participant or others are at risk of harm and/or which indicates illegal activity. I will then need to follow the school's safeguarding procedures.

A Data Management Plan (DMP) will be put in place for this research within the University of Birmingham. Immediately after each participant interview, the electronically audio-recorded data will be transferred from the audio-recording device to a password-protected folder on 'BEAR DataShare', (a secure data storage system used by The University of Birmingham).

The audio files will then be erased from the audio-recorder. ElectAronic transcripts and notes will be held in a password protected folder on BEAR DataShare. For the duration of the analysis period, printed transcripts, written notes and consent forms will be stored in a locked cabinet to which only I have access; they will then be scanned to pdf. and transferred to BEAR DataShare. In accordance with university research policy, data will be stored on BEAR DataShare for 10 years after completion of the project. A 10-year expiry date will be set for the electronic data stored on BEAR DataShare.

How will the findings be reported?

Following data analysis, a simple report will be sent to participants, outlining the main findings of the research. Participants will be offered the opportunity to meet me to further discuss the research findings.

A write-up of the research will form part of my doctoral thesis and may be published in a research journal

What if I have questions or require more information?

If you have any questions regarding the project, please contact me at X; or my supervisor is X, who can be contacted at X

Finally, I thank you for taking the time to read this letter and I hope to hear from you soon.

Yours faithfully,

Haley Fong

Appendix B: Information Sheet for Parents

UNIVERSITY OF BIRMINGHAM

Using mixed methods to explore anxiety in young people with difficulties in learning

Dear Parent/Carer,

This information leaflet has been given to you because I am seeking your agreement to allow your child to take part in a research project which I am undertaking as part of my training to become an educational psychologist. My name is Haley Fong; I'm a postgraduate research student at the University of Birmingham and currently on placement in X

Before you decide whether your child can take part, please read this leaflet so that you understand why the research is being conducted and what being part of the project will involve. If you would like more information, or if you would like to ask any questions about the information below, please do not hesitate to ask (contact details are provided at the end of this leaflet).

Brief description of the project

The aim of the research is to explore test anxiety in young people, attending a mainstream secondary school, with difficulties in learning. I would like to speak with young people in Year 7 or 8. Through this research, I aim to understand their experiences of test anxiety, what factors impact their levels of test anxiety and what support can be provided to help them. Ultimately, the research aims to help to promote positive outcomes for young people with difficulties in learning who may find test and exams challenging.

The research questions I plan to answer are in this study are:

1. To what extent do students in this sample experience test anxiety?
2. What are the experiences of test anxiety for students who have difficulties in learning?
3. For students who have difficulties in learning, what aspects of tests do they find most anxiety provoking?
4. For students who have difficulties in learning, what support has helped alleviate the anxiety?
5. For students who have difficulties in learning, what coping strategies are used to alleviate anxiety?

What are the benefits and risks of the research?

The research will be beneficial, since very little research has been undertaken exploring test anxiety in students with difficulties in learning. The research will help to gain a better understanding of what factors impact their test anxiety and what can be done to help them.

Your child may talk about difficult feelings associated with test and exams. If I feel that your child is showing signs of fatigue, distress or unwillingness to take part, I will ask whether they would like to stop the interview. I will also provide information about which members of staff they can speak to for help. I will also provide details of organisations for further support in the debrief form.

What would being involved entail?

If you agree for your child to take part, this could involve 2 or 3 sessions. This will take place in school/via a video call from school. In the first session, I will meet with your child to verbally explain the purpose of the study and what they will be asked to do should they wish to take part. This is so they can get good understanding of the study and it will also give them the opportunity to ask questions if they want to. From this session, your child can decide whether they want to take part in the study and it will also help me to decide whether your child can access being interviewed. If they agree to take part and are able to be interviewed, I will ask them to sign a consent form.

If your child is invited to the second session, I will complete a questionnaire with them called the 'Children's Test Anxiety Scale'. This will take about 30 minutes. I will then conduct individual interviews with your child, which should last between 30-45mins. The interview will consist of questions which explore their experiences of tests, their feelings towards tests, what parts of tests causes them to have anxiety/worry and what can be done to help them. I will provide visuals to support them with answering the questions.

If I notice that your child is becoming fatigued after completing the questionnaire, I will not complete the semi-structured in session 2. I will come back for a third session to complete the semi-structured interview.

What will happen to my child's contributions?

In order to ensure that I have an accurate record of what your child has said, I will audio record the interview with your child. I will also transcribe the audio recording. The audio recordings will only be accessible to me and will be stored securely for 10 years post data collection in accordance with the University policy.

The research will comply with the 1988 Data Protection Act, which assures the safe storage of personal information and restrictions on communication of personal information, in order to safeguard privacy. I guarantee that your child's name will be kept anonymous. Anything said within the interview will be kept confidential; I will not disclose any information to third parties. Quotes from the interview could be added in my write up, however, they will not be personally identifiable.

The only exception would be in the unlikely case of a disclosure during the interview of information suggesting risks of harm to your child or to others. If this were to occur, I would have a duty to report such information according to the school's safeguarding procedures.

Once I have analysed all the interview data gathered from your child and others in my research sample, I will write up my findings in my doctoral thesis. This may also be published in a research journal.

What if I or my child changes our minds about taking part?

Participation in this project is entirely voluntary and your child is free to change their mind and withdraw from the project at any point before, during or up to 2 weeks after the second session. You are also able to withdraw your child from the study if you change your mind about allowing them to take part. You will not need to provide a reason, nor will there be any consequences for withdrawing. If your child wishes to withdraw from the study, please inform me using the contact details below. If this is during or up to 2 weeks after the second session, I will delete and destroy any information you have provided, should you so request.

How does my child become involved?

If you are willing to allow your child to be involved in the study, please fill out the consent form included, and you can either scan and email it back to me or send it back via post.

Once I receive the forms, I will get in touch with the school to arrange a time to meet your child in a first session to discuss the research project and allow them to ask any questions. If they still wish to take part and are able to access being interviewed, I will ask them to sign a consent form. Following this session, I will arrange a second session to conduct the interview and questionnaire with your child.

What If I have more questions or want further information?

If you have any questions regarding the project or would like to know more before you agree for your child to participate, please contact me via email X You can also contact my supervisor, X, who can be contacted via X

Thank you for taking the time to read this.

Yours faithfully,

Haley Fong

Appendix C: Consent Form for Parents/Carers

UNIVERSITY OF BIRMINGHAM

Providing my consent for:_____(Name of Child)	✓ **(Please tick)**
I have read the information sheet provided and understand the nature of the research: *Using mixed methods to explore test anxiety in young people with difficulties in learning*	
I understand that this project forms part of the University of Birmingham postgraduate doctoral research toward Haley Fong's professional qualification as an educational psychologist.	
I consent for my child to take part in the research study.	
I understand that my child can withdraw from the study at any point up until 2 weeks after the second/third session.	

Signed_____Date_____

Initials_____

Appendix D: Participant Information Sheet

Hello,

I am Haley and this is me.

I am training to become an educational psychologist. This is a job where I work with young people to help and support them in school.

As part of my training, I would like to ask you to be involved in a project about your experiences of tests and exams.

What will happen in the project?

If you agree, we may meet for up to 3 sessions. I would first like to meet you at school or through a video call to get to know you, to explain the project and to check whether you would like to take part in the project.

If you agree to take part in the project, I would like to meet you again and we will complete a questionnaire and I would also like to hear you talk about:

- Your experiences of tests, exams and revision
- How tests and exams make you feel
- What helps you with tests and exams

This is called an interview.

I would also like to voice record us when we are talking, and I would do this by using a small voice recorder. The University would also like me to make sure I keep the voice recording for 10 years.

If you don't want to answer my questions or take part in my project, that is fine. Also, if you choose to say yes today and then decide you no longer want to take part later, that is okay too. You will have 2 weeks after the interview has finished to let me know if you decide that you do not want your interview to be included in my project.

I will then write up what has been said by yourself and other young people. Your name and school will not be included in any of this.

Benefits and Risks

If you do choose to take part, here are the benefits and risks:

The benefits of taking part	The risk of taking part
You can share your experiences of tests and exams, to help us understand how other students may feel about tests and exams.	During our interview, when we are talking about test and exams, we may also talk about some difficult feelings.

If you say something that worries me, I will pass the information on to someone who can help you.

What happens next?

If you have some questions about the project before you agree to take part, I would be happy to answer them. You can ask your parents or teacher to email me at x.

If you want to take part, please write your name in the space below and this will be returned to me. I will also ask your parents to sign a permission slip for you to take part. I will then like to meet with you to explain the project in more detail and to make sure you still want to take part in the project.

My name is_____and I would like to take part in Haley's project.

Appendix E: Participant Consent Form

Consent form

I have spoken to Haley today and she has told me all about the project I am going to take part in.

My name is_____and I would like to take part in Haley's project.

Please read the sentences below and tick whether you understand and agree to each sentence.

	Understand	Agree
I am happy to take part in Haley's project.		
I am happy for my voice to be recorded during the interview and questionnaire.		
I am happy to talk to Haley and tell her my experiences of tests and exams.		
I am happy to talk about how test and exams make me feel.		
I am happy for what I have said to be written up. My name and school name will not be included in this.		
If I no longer want to take part, I understand that I can stop at any time.		
I have 2 weeks after the interview to tell Haley if I do not want to take part in the project anymore.		
If I say something that worries Haley, I understand that she will have to pass the information on to someone who can help me.		

Signed:_____ Date: _____

Appendix F: Letter to Participant Following Withdrawal

Hello,

Thank you for talking to me!

I really enjoyed talking with you and getting to know you.

You do not need to do anything more for this project now. You have been very helpful already!

If you have any more questions, I would be happy to answer them. You can ask your parents or teacher to email me at X

Thank you again!

Haley

Appendix G: Letter to Parents/Carers Following Withdrawal

UNIVERSITY OF
BIRMINGHAM

Dear Parent/Carer,

Thank you for allowing your child to speak with me regarding my research. It has been a pleasure to meet and to talk with him/her.

Choose between following:

Following our first meeting, your child voiced that they did not want to further take part in the research project. Therefore, we will not proceed with the questionnaire and interview.

OR

Following our first meeting, your child does not fully the meet the criteria to participate in the research project. Therefore, we will not proceed with the questionnaire and interview.

I really appreciate the time that you and your child has given to the research project and would like to take this time to thank you again.

If you have any questions regarding the project or would like to know more, please contact me via email X You can also contact my supervisor, X, who can be contacted via X

Yours faithfully,

Haley Fong

Appendix H: Children's Test Anxiety Scale (Wren & Benson, 2004)

Children's Test Anxiety Scale

Circle the answer that best describes you?

1. I am a …. boy. girl.
2. What year are you in? Year 7 Year 8

Practise

Please read the following sentence. Decide if it describes the way you are when you are taking tests.

If the sentence is **almost never** or **never** like you, circle **1**.

If the sentence describes the way you are **some of the time**, circle **2**.

If the sentence describes the way you are **most of the time**, circle **3**.

If the sentence describes the you are **almost always** or **always**, circle **4**.

While I am taking tests…	**Almost never**	**Some of the time**	**Most of the time**	**Almost always**
I think about doing other things	1	2	3	4

The rest of the sentences describe how students may think, feel or act while they are taking tests.

Please read each sentence carefully and decide if the sentence describes how you think, feel and act during a test. Then circle the answer that best describes the way you are while you are taking a test.

If you are not sure which answer to circle, read the statement again before circling your answer. Remember, there is no 'right' or 'wrong' answer.

While I am taking tests…	Almost never	Some of the time	Most of the time	Almost always
1. I wonder if I will pass . . .	1	2	3	4
2. My heart beats fast . . .	1	2	3	4
3. I look around the room . .	1	2	3	4
4. I feel nervous	1	2	3	4
5. I think I am going to get a bad grade . .	1	2	3	4

While I am taking tests…	Almost never	Some of the time	Most of the time	Almost always
6. It is hard for me to remember .	1	2	3	4
7. I play with my pencil . . .	1	2	3	4
8. My face feels hot . . .	1	2	3	4
9. I worry about failing . . .	1	2	3	4
10. My belly feels funny . . .	1	2	3	4

While I am taking tests…	Almost never	Some of the time	Most of the time	Almost always
11. I worry about doing something wrong	1	2	3	4
12. I check the time	1	2	3	4
13. I think about what my grade will be	1	2	3	4
14. I find it hard to sit still . . .	1	2	3	4
15. I wonder if my answers are right .	1	2	3	4

While I am taking tests…	Almost never	Some of the time	Most of the time	Almost always
16. I think I should have studied more	1	2	3	4
17. My head hurts	1	2	3	4
18. I look at other people . . .	1	2	3	4
19. I think most of my answers are wrong	1	2	3	4
20. I feel warm	1	2	3	4

While I am taking tests…	Almost never	Some of the time	Most of the time	Almost always
21. I worry about hard the test is .	1	2	3	4
22. I try to finish up fast . . .	1	2	3	4
23. My hand shakes	1	2	3	4
24. I think about what will happen if I fail	1	2	3	4
25. I have to go the bathroom . .	1	2	3	4

While I am taking tests…	Almost never	Some of the time	Most of the time	Almost always
26. I tap my feet	1	2	3	4
27. I think about how poorly I am doing	1	2	3	4
28. I feel scared	1	2	3	4
29. I worry about what my parents will say	1	2	3	4
30. I stare	1	2	3	4

Thank you for helping!

Appendix I: Pilot Semi-structured Interview Schedule

Housekeeping:

- Welcome the participant and thank them for agreeing to meet.
- Explain the research aims and the interview process (time and topics).
- Check understanding of the participant information sheet and answer any queries.
- Review signed consent form, including agreement for audio-recording of the interview and right to withdraw.

Interview commences (turn on audio-recorder):

Issue / topic	**Possible question**	**Possible follow-up questions [Prompt]**	**Probes**
Tests in school Fill Table 1 in Visuals document (Appendix C) for Q1-4	1. In school now, which subjects do you do?		
	2. How do you feel about… *(mention each subject they have said)*	(Use emotions visuals if needed)	Why does it make you feel that way?
	3. What tests do you have for… *(mention each subject they have said)*	Give examples such as spelling tests, writing tests, answering questions, speech)	
	4. How do you feel about… *(mention each test they have said)*	Use emotions visuals if needed)	Why does it make you feel that way? Why?

	5. Do you revise for tests? 6. When you know you have a test, does it change how you feel that day? 7. How do you feel when you finish a test/exam?	(Use emotions visuals if needed environment)	How do you feel about revising for tests?
Worry (Go onto this section, If they do not mention worry in previous section)	8. Do tests make you feel worried? (Show worried emotions card)	Why do tests make you feel worried/why do tests not make you feel worried? (e.g. use visuals revision, grades, type of test, subject, classroom environment)	Can you tell me more about this? Can you tell me more about this?
Task-irrelevant thoughts	9. When taking tests/exams, what do you think about?	Do you think about other things rather than the test subject?	How often does this happen? What do you think about?
Coping	10. Is there anything that you do that helps you feel better about taking tests/exams?	Give visual examples of different coping strategies	

		Why is this helpful to you?	
Support	11. What help do you get from **<u>teachers</u>** when you are preparing or taking tests/exams? 12. What help do you get from **<u>parent/carer/family</u>** when you are preparing or taking tests/exams?	What is most helpful to you? Is there anything that is not helpful?	Why is that helpful? Why is that not helpful?

Conclude interview (turn off the audio-recorder):

- Thank the participant for taking part.
- Provide and explain the debrief form.
- Remind the participant of their right to withdraw within the next 14 calendar days, and of the steps to take should they wish to do so.
- Ask participants if they have any questions. If they have any questions following the interview, they can speak with their parents/teacher to contact me.

Appendix J: Final Semi-structured Interview Schedule

Housekeeping:

- Welcome the participant and thank them for agreeing to meet.
- Explain the research aims and the interview process (time and topics).
- Check understanding of the participant information sheet and answer any queries.
- Review signed consent form, including agreement for audio-recording of the interview and right to withdraw.

Interview commences (turn on audio-recorder):

Issue / topic	**Possible question**	**Possible follow-up questions [Prompt]**	**Probes**
Tests in school Fill Table 1 in Visuals document (Appendix C) for Q1-4 Putwain (2009) - worry concerning exams was subject-specific, in that it was dependent on the student's perception of their ability in that subject. *Integrative Transactional Model of Test Anxiety* – Perception of tests factors	1. In school now, which subjects do you do? *2.* How do you feel about… *(mention each subject they have said)* *3.* What tests do you have for… *(mention each subject they have said)* *4.* How do you feel about… *(mention each test they have said)*	(Use emotions visuals if needed) Give examples such as spelling tests, writing tests, answering questions, speech) Use emotions visuals if needed)	Why does it make you feel that way? Why does it make you feel that way? Why?

Swanson and Howell (1996) – students with learning difficulties with poorer study skills had higher test anxiety Integrative Transactional Model of Test Anxiety- Personal variables factor	5. Do you revise for tests? 6. When you know you have a test, does it change how you feel that day? 7.How do you feel when you finish a test/exam?	How do you revise/practise for tests? (Use emotions visuals if needed environment)	How do you feel about revising for tests?
Worry (Go onto this section, If they do not mention worry in previous section) Integrative Transactional Model of Test Anxiety- State test anxiety factor	8. Do tests make you feel worried? (Show worried emotions card) 9. What parts of tests makes you most worried?	Why do tests make you feel worried/why do tests not make you feel worried? (e.g. use visuals revision, grades, type of test, subject, classroom environment)	Can you tell me more about this? Can you describe how it feels? Can you tell me more about this?

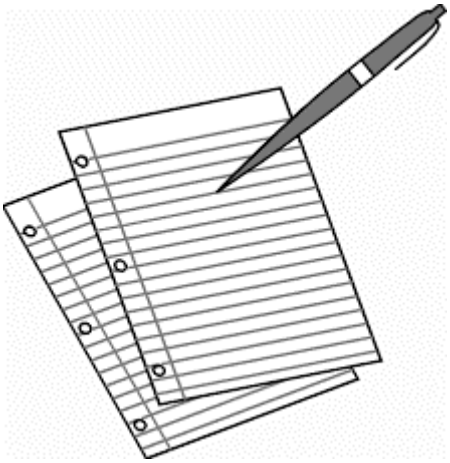
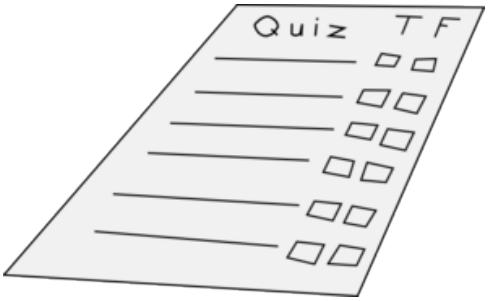
Task-irrelevant thoughts	10. When taking tests/exams, what do you think about?	Do you think about other things rather than the test subject? How do you focus back on the test/exam?	How often does this happen? What do you think about?
Coping Integrative Transactional Model of Test Anxiety- Coping reactions (Fullana et al., 2020) – individuals may use relaxation activities to reduce anxiety	11. Is there anything that you do that helps you feel better about taking tests/exams?	Give visual examples of different coping strategies Why is this helpful to you?	
Support Integrative Transactional Model of Test Anxiety- Coping reactions Custodero (2013) – lower test anxiety when they perceived there was social support	12. What help do you get from **teachers** when you are preparing or taking tests/exams? 13. What help do you get from **parent/carer/family** when you are preparing or taking tests/exams?	What is most helpful to you? Is there anything that is not helpful?	Why is that helpful? Why is that not helpful?

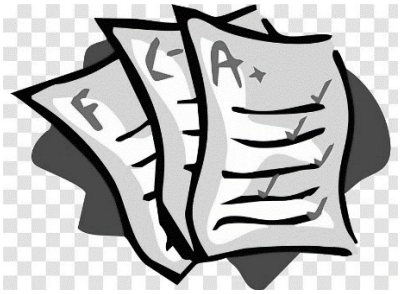
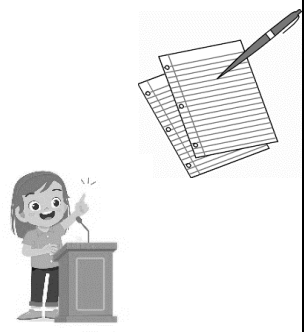
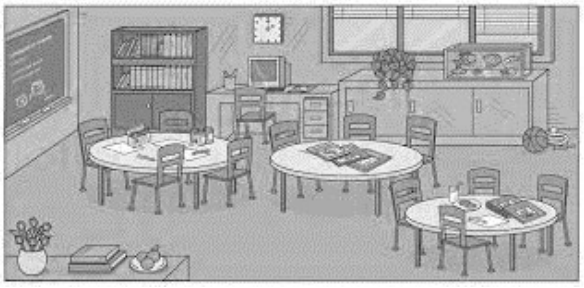
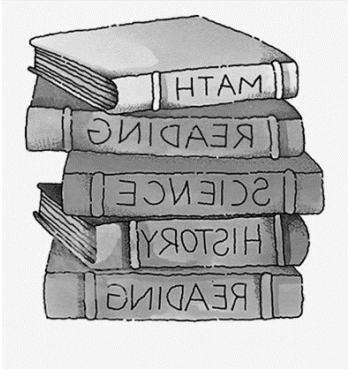
Conclude interview (turn off the audio-recorder):

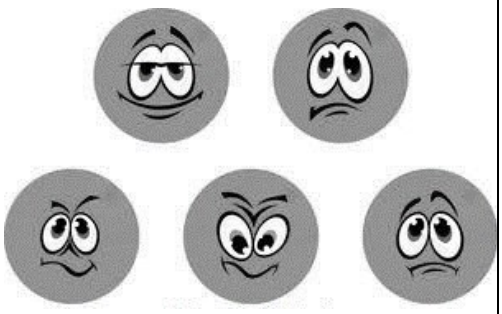
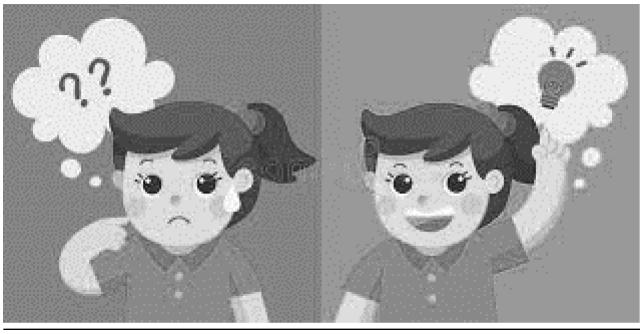
- Thank the participant for taking part.

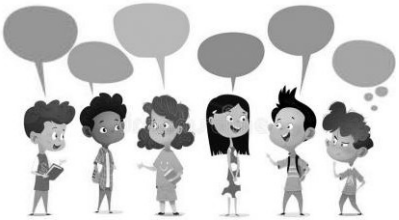
- Provide and explain the debrief form.
- Remind the participant of their right to withdraw within the next 14 calendar days, and of the steps to take should they wish to do so.
- Ask participants if they have any questions. If they have any questions following the interview, they can speak with their parents/teacher to contact me.

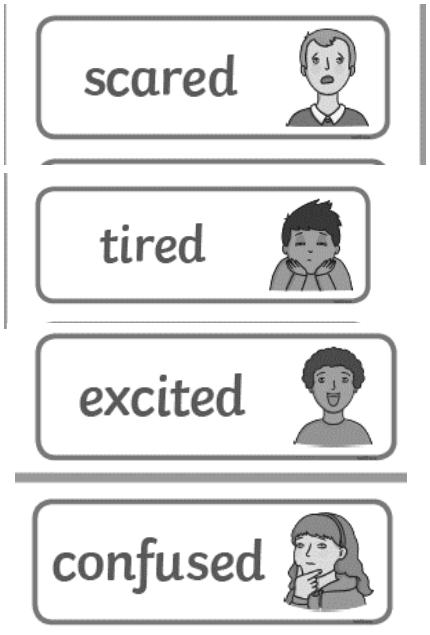
Appendix K – Visual Aids for Semi-structure Interview

 **Spelling Test**	 **Essay Writing**
 **Written questions**	 **Speech**
 **End of topic test**	

 **Revision**	 **Grades/Marks**
 **Types of tests**	 **Classroom**
 **Subject**	

 **Ask for help**	 **Do something I enjoy**
 **Show my emotions**	 **Think of ways to solve the problem**

 **Talk about my feelings**	 **Don't think about the test**



Appendix L: Visual Table for Lessons/Tests

1. Subject										
2. How do you feel about subject?										
3. Types of test										
4. How they feel about test										

Appendix M: Participant Debrief Form

Debrief form

Thank you for speaking with me today! 

Summary

Today, we talked about your experiences of tests and exams, how they make you feel and what helps you with test and exams. Your experiences will help us to understand how young people like yourself feel about test and exams.

I will write up what we have talked about today, but I will not include your name and school name. The University would also like me to make sure I keep the voice recording for 10 years.

If you would like to ask me more questions about the project, you can ask your parents or teachers to email me.

Next Steps

If you decide later that you do not want your interview to be included in my project, that is okay!

You have 2 weeks to let me know if you do not want to take part anymore. You can tell your parents/carer or teacher to let me know.

Last day I can let Haley know if I do not want to take part _____(Write date).

Once I have written up what you and other young people have said, I will send you a short report about what I have found. You can also ask me any questions about it.

My email address is: x

Further Help

Today, we may have talked about some difficult feelings and emotions about test and exams.

- If you have any worries or concerns, you can speak with _____(write name of relevant school staff) at school.

- You can also find help and more information below:

  Childline
  https://www.childline.org.uk/
  https://www.childline.org.uk/info-advice/school-college-and-work/school-college/preparing-exams/
  0800 1111

  Young Minds
  https://youngminds.org.uk
  https://youngminds.org.uk/blog/exam-results-stress-advice-for-young-people/

  BBC Bitesize offers resources to help students with homework, revision and learning. See Bitesize's advice on how to deal with exam stress.

Name: _____

Do you agree for your interview to be included in my project?
YES / NO (please circle)

Appendix N: Parental Debrief Form

UNIVERSITY OF BIRMINGHAM

Dear Parent/Carer,

This is a debrief form for the research study that your child has taken part in.

Summary

The aim of the research is to explore test anxiety in young people, attending a mainstream secondary school, with difficulties in learning. Through this research, I aim to understand their experiences of test anxiety, what factors impact their levels of test anxiety and what support can be provided to help them. Ultimately, the research aims to help to promote positive outcomes for young people with difficulties in learning who may find test and exams challenging. Please retain this debrief form, as well as your copies of the Information Sheet as they provide more detail on all aspects of the research study.

Next Steps

The audio recordings will only be accessible to me and will be stored securely for 10 years post data collection in accordance with the University policy.

Your child's interview recording will be written but your child's name will be changed. Anything said within the interview will be kept confidential; I will not disclose any information to third parties. Quotes from the interview could be added in my write up, however, they will not be personally identifiable.

Participation in this project is entirely voluntary and your child is free to change their mind and withdraw from the project at any point before, during or up to 2 weeks after the second session. You are also able to withdraw your child from the study if you change your mind about allowing them to take part. You will not need to provide a reason, nor will there be any consequences for withdrawing. If your child wishes to withdraw from the study, please inform me using the contact details below. If this is during or up to 2 weeks after the second session, I will delete and destroy any information you have provided, should you so request.

Date by which your child can withdraw_____(write date)

Once I have analysed all of the interview data gathered from your child and others in my research sample, I will write up my findings in my doctoral thesis. This may also be published in a research journal. I will also write up a simple summary report to give to your child.

What If I have more questions or want further information?

If you have any questions regarding the project or would like to know more, please contact me via email X or via phone call on X. You can also contact my supervisor, X who can be contacted via X or via phone call on X

Further Support

During the interview, your child may have spoken about difficult feelings in relation to test and exams. If you and your child require further support, please see below for the information to various organisations:

Childline
https://www.childline.org.uk/
https://www.childline.org.uk/info-advice/school-college-and-work/school-college/preparing-exams/
0800 1111

Young Minds
https://youngminds.org.uk
https://youngminds.org.uk/blog/exam-results-stress-advice-for-young-people/

BBC
BBC Bitesize offers resources to help students with homework, revision and learning. See Bitesize's advice on how to deal with exam stress.

Relate
https://www.relate.org.uk/
See Relate's advice for coping with exam stress as a family.

Family Lives
https://www.familylives.org.uk/
See Family Lives' advice for supporting your teenager through their exams.

NHS
https://www.nhs.uk/conditions/stress-anxiety-depression/coping-with-exam-stress/

Appendix O: Example of Non-coded Transcript

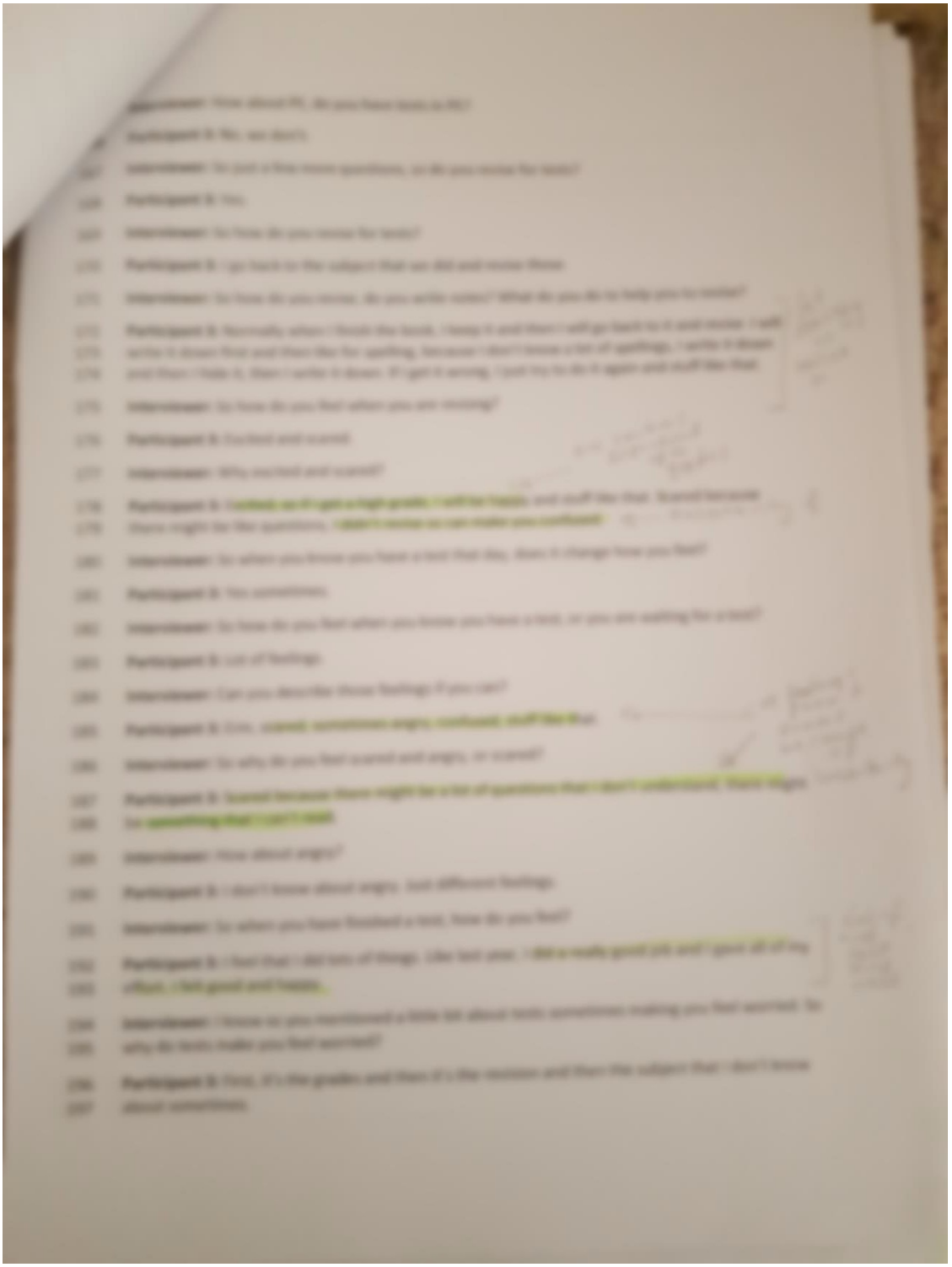
[redacted]

[redacted]

[redacted]

[redacted]

Appendix P: Example of Coding on Transcript



Appendix Q: Initial Themes

Potential Themes for RQ 3	**Participant**
<u>Impact of self-beliefs/concept</u>	
- Comparison with others	**7, 5**
- Fear of failure	**7, 2, 4, 8**
- Lack of confidence in subject ability	**5, 4**
<u>Situational Conditions</u>	
- Type of test, unfamiliarity of the test, difficulty	**6, 5**
- Difficulties with timed tests	**6, 5**
Distraction – teachers talking	**6, 9**
- Working alone	**7**
<u>Learning difficulties</u>	
- Not understanding the question, out of control	**7, 6, 2, 3**
- Difficulties with writing, having to write too much,	**3, 5, 6**
- Not remembering the work	**5, 3**

Potential Themes for RQ 4	**Participant**
- Support from teachers	**7, 6, 10**
- Removing uncertainty	**5**
- Reassurance	**9, 2, 8**
- Providing explanations	**9, 5, 3, 5, 4, 8**
- Expressing feelings	**3**
- Support from family members	**8, 3**
- Doing activities to provide distraction	**7, 5, 2, 4**
- Low states tests	**6**

Appendix R: Defining and Naming Themes

Themes for RQ 3	**Participant/Quotes**
<u>Difficulties with understanding</u>	
- Unable to read the questions	3 (Line 113), 7 (Lines 55-56)
- Not knowing what a word means	2, 7 (Line 61)
- Not having the knowledge to answer questions	3 (Lines 125-126), 5 (Line 80)
<u>Difficulties with writing</u>	
- Not knowing what to write	3 (Lines 58-59)
- Difficulties with spellings	3 (Line 27), 5 (Line 125)
- Balancing of other skills	5 (Lines 125-126)
- Having to write a lot and quickly	6 (Lines 89-90), 5 (Line 148)
<u>Impact of self-concept</u>	
- Comparison with others	7 (Lines 116-117, 121-122), 5 (Lines 70-71, 117-118),
- Fear of failure	4 (Line 29), 5 (Line 48), 8 (Line 130)
- Lack of confidence in subject ability	5 (Line 125), 7 (Line 75)

Themes for RQ 4	**Participant/Quotes**
<u>Practical Support with Test and Learning</u>	
- Reading questions	4 (Lines 81-82), 6 (Line 218-219)
- Help prior to tests	5 (Line 163-164), 9 (Line 171)
- Practical support from family	8 (Line 195), 3 (Lines 260-261)
<u>Emotional Support</u>	
- Reduced pressure	2 (Line 179-180)
- Talking with family	3 (Lines 204, 210)
- Unconditional support from teachers	9 (Line 178), 3 (Lines 239-240)
<u>Distraction and Relaxation Activities</u>	
- Pursuing hobbies	5 (Lines 135-136), 4 (Line 94)
- Distraction from negative feelings	2 (Lines 146-147), 7 (Lines 143, 145)