

***A Mixed Method Study Focusing on Adult Dyslexic Higher Education  
Students and their Experiences with Anxiety and Coping***

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**Thesis Submitted for the Award of Doctor in Education  
(EdD)**

## ***Declaration***

I hereby declare that, except where explicit attribution is made, the work presented in this thesis is entirely my own.

Signed:

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## ***Abstract***

A Mixed Method Study Focusing on Adult Dyslexic Higher Education Students and their Experiences with Anxiety and Coping.

### **Background**

Adult students with dyslexia can apply for support for their cognitive needs but may also experience anxiety, which less is understood. This thesis aims to test the hypothesis that adult dyslexic learners in higher education (HE) have a higher prevalence of academic and social anxiety than their non-dyslexic peers and will explore the wider emotional consequences of studying with dyslexia and the ways in which adults with dyslexia cope both cognitively and emotionally.

### **Methods**

The study utilised a mixed method approach and was in two stages. Stage one involved a survey of HE students with dyslexia (N = 102) and without identified dyslexia (N = 72). Students completed the State-Trait Anxiety Inventory measuring academic and social anxiety. Stage two used an exploratory approach to investigate emotional consequences of studying with dyslexia and types of coping strategies used through the method of semi-structured interviews with 20 dyslexic students.

### **Results**

The results for stage one revealed a statistically significant effect for academic anxiety, but not for social anxiety.

The main findings for stage two showed that: (1) Students' emotional consequences of studying with dyslexia were characterised by a mixture of negative and positive emotional responses, yet negative responses were more frequently used in response to questions about academic tasks than positive

responses; (2) Participants had a lot less to say with regards to coping emotionally, than coping cognitively. However, coping emotionally identified a mixture of coping methods including avoidance; through to participating in exercise; and developing mental resilience.

### **Conclusions**

Dyslexic students in higher education show anxiety levels that are well above what is shown by students without learning difficulties. The implications of this for practice and for the dyslexia practitioner is that the delivery of strategies to deal with the negative emotional consequences of studying with dyslexia and ways of overcoming avoidance on academic tasks should be seen as just as important, if not more so, than the teaching of interventions to deal with cognitive difficulties associated with dyslexia.

## ***Impact Statement***

According to the findings, stage one of this research, the quantitative study, has provided a strong evidence base to suggest that dyslexic students in higher education have a higher prevalence of academic anxiety than their non-dyslexic peers. Findings from interviews conducted with dyslexic students in the second phase of the research provided confirmation of the findings from the survey and in addition, revealed that although students have a range of cognitive strategies to deal with academic tasks, they have fewer productive coping strategies to deal with negative emotional consequences of studying with dyslexia. This evidence should now be implemented to improve practice. Consequently, an important potential impact of the research is the significance that the study has for dyslexia practitioners, specialist teachers, disability service advisers within higher education, and training providers of courses for specialist SpLD teachers, tutors and practitioners. There has been a tendency to train future dyslexia tutors to focus on providing interventions for cognitive weaknesses. However, this study suggests that fostering of strategies to support students to deal with the negative emotions associated with dyslexia is equally as important, if not more so.

Adult dyslexic learners are likely to benefit from the findings contained in the thesis because a deeper understanding of the negative emotional affects connected with dyslexia has been documented. Furthermore, the relationship between dyslexia and anxiety can now be recognised at a broader level as the study has provided examples of situations in which a dyslexic student may be vulnerable to anxiety. On a more positive note, the research has also exposed an array of cognitive strategies that dyslexic students are applying to cope with demands of their academic work. These now need to be shared and trialled out with other dyslexic students.

Providers of academic courses and Lecturers at university could also be impacted by the findings. The results revealed that students with dyslexia have issues with exams as a form of assessment and with note-taking in lectures. Thus, alternative forms of assessment should be offered, and Lecturers should provide further support to alleviate note-taking difficulties. There should be a requirement amongst universities that all degree and postgraduate degree courses adhere to the provision of Power Point slides and other materials before lectures.

Findings have also shown how necessary one-to-one support, with a well-qualified dyslexia tutor, is for students with dyslexia. Policy makers involved in the funding for the disabled student allowance, should therefore consider the importance of the grant continuing to ensure dyslexic students are able to access appropriate support. Additionally, the results indicated that negative emotions stem from deep rooted memories of bad experiences at school. Those involved in a child's education should be trained more effectively to identify and deal with dyslexia effectively and sensitively.

The study can now be replicated by other academics in a different setting, such as the school, or work place. This could enhance our understanding of the relationship between, dyslexia, emotion and coping by tapping into issues for people with dyslexia of different ages and in different environments.

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## ***Reflective Statement***

This reflective statement aims to present the origins of my personal interest in the field of dyslexia and provides an account of my motivations for undertaking the EdD. I also detail how the various taught courses, the institution focused study, and ultimately, the thesis has influenced and shaped my professional understanding and development as a dyslexia practitioner. I finally, describe the implications the EdD journey has for my future career.

### **Personal Introduction**

“Why does Amanda struggle with her spelling and pronunciation of words when reading, even though she puts the effort in and is from a caring and encouraging family?” This question was asked by teachers throughout my school life. My passion at school was for the creative and visual arts and I had little aptitude for letters and numbers. I remember it was frustrating to struggle to learn something that appeared so easy for others. The discrepancy between my love of the visual and difficulty with the written word led to a BTEC at art college where I was accepted due to my creative potential, and the funny story I wrote as part of the entry criteria, rather than for my academic credentials. I went on to undertake BA and MA degrees in Film and started to work as a Lecturer in Film and Media. However, the aspect of the role I was passionate about was tutoring students struggling with their essays, many of whom were dyslexic. My colleagues noted I had a natural tendency to help to unlock potential in these students to help them to achieve.

At the age of 32, whilst undertaking a PGCE at Nottingham University, as I wanted to fine tune my lecturing skills, I was asked by a Lecturer specialising in learning difficulties to have a screening for dyslexia. Finally, the mystery of my earlier struggles at school and my passion for working with students with dyslexia was unravelled. I started with this story because it marks the beginning of my interest

in the field of dyslexia. I decided to gain advanced knowledge in the field and attended a master's degree in special and inclusive education at the Institute of Education. For the first time, I encountered theoretical concepts such as 'inclusive education', 'models of disability', 'philosophical paradigms', 'difference' and 'diversity', yet wanting to put these theoretical underpinnings into practice, I trained as a specialist dyslexia tutor. Since qualifying as a dyslexia practitioner, I have worked as a dyslexia support tutor, working with dyslexic higher education students for the past five years at the Independent Dyslexia Consultants.

#### Motivations for Undertaking the EdD

Through my work, it has been particularly important to me to know how to help my students more effectively. My initial motivation for undertaking a Doctorate in Education (EdD) therefore, was to provide myself with a new challenge by delving into academic research on my professional area. This was in the hope that new insights and understandings of adult dyslexia could be implemented to my practice to enable the students with dyslexia that I work with to be more completely supported. Thus, the professional doctorate was chosen over the PhD route because I felt that the research I could undertake, being based on a problem identified in practice, would, and has been integrated into my work which has enabled my development as a practitioner. The EdD has facilitated the two elements of theory and practice to continuously work in a symbiotic relationship with each other and are reiteratively complementing and developing each other in a cyclical process. I was also attracted to the aspect of going through the journey of the EdD as part of a supportive cohort, and as well as making lifelong friends, provided in agreement with Andrews and Edwards (2008) 'the stimulation of collaborative working'.

#### The Taught Courses

My first assignment on the EdD for the Foundations of Professionalism (FoP) module involved evaluating two theoretical concepts 'supercomplexity' and 'third

space' in an application of these to my role as a freelance tutor and 'borderless professional' (Gordon & Whitchurch, 2010) that incessantly moves across boundaries and dips in and out of professional and academic realms. Whilst the application of these concepts really helped to illuminate an awareness of types of professional challenges that I face on a day-to-day basis in a 'liquid' age, as referred to by Bauman (2000); I also argued that the continuous maintenance of fluidity in definitions of professional identity and self is perhaps a more relevant and pertinent concept for my own specific type of professional capacity, particularly for dealing with perpetual changes when moving across functional and organisational boundaries. As this was my first piece of writing for the EdD, I was rather apprehensive with regards to receiving the formative feedback. However, I was delighted to be provided with a confidence boost by being told that the assignment required only minor amendment and refinement; such as clarification of a couple of ideas and the substantiation of a few points by backing up with evidence, etc., before it fully satisfied the general EdD criteria of assessment.

The second assignment for the Methods of Enquiry One (MoE1) module titled *Coping Strategies for Adult Dyslexic Learners in Higher Education* basically taught me how to write a persuasive and transparent research proposal, whilst also providing an understanding of not only ways to justify and rationalise my place as a researcher, but to also consider where I stand epistemologically in the research and to select appropriate methodologies dependent upon the aims of my research question and my epistemological position.

Thus, for the Methods of Enquiry Two (MoE2) assignment, I selected a qualitative approach with the methodology of open-ended, semi-structured interviews, to provide a detailed account of the often-marginalised individual voices of University students with dyslexia, in relation to their own unique experiences of using strategies to cope with their academic work. This assignment enabled me to gain an understanding of the practicalities of carrying out interviews and the difficulties

that they can encompass, particularly for 'insider research'. For example, when the interviewer as researcher is also the participants tutor, this could potentially skew the data, as interviewees may only be disclosing what they believe their tutor would like to hear. Consequently, the work for MoE2 also informed and developed my understanding of types of ethical issues to consider in research and I learned how to conduct data analysis by using the NVivo 10 software package.

On reflection of the learning opportunities provided by the three taught courses and by undertaking work for the three assignments on the first year of the EdD, I would say that it was engaging and stimulating, and I felt that it enabled my development as an academic researcher. I also grew immensely in confidence in terms of articulating my ideas, both in writing, and orally to peers during seminar discussions. In summary, engagement with the different theoretical perspectives and methodologies introduced by the three modules inspired me to be more experimental with my research approach. For instance, although I gained useful experience with the interview methodology, for the IFS, I decided to use a mixed method technique by combining interviews with a survey.

#### [The IFS Study](#)

By the time I began the IFS study, I had a piece of research in mind, one which interested me and which I knew would benefit my professional role. A large element of my work with students involves delivering and advising on cognitive strategies, such as, for instance, reading techniques like PASS strategy (preview, ask and answer questions, summarise, synthesise) so students can implement these to their work to essentially make it less demanding. As most students, I work with are what is referred to as 'compensatory' students with dyslexia, students who have already found ways to overcome their learning difficulties, I wanted to extrapolate from them the strategies, or techniques, they are using to cope with their academic work. This would enable my teaching toolbox to be extended, so that techniques could be shared with other students during support

sessions. Consequently, a mixed method approach was used for the study. Qualitative interviews were conducted in *phase one* with 7 dyslexic students to discover the types of coping methods being used in relation to specific study tasks at University. In *phase two*, a quantitative survey was administered to 35 dyslexic students to gather data on areas with low levels of coping. It was findings from survey items associated with generalised anxiety and worry, which were ranked highly by participants, that inspired the work for the thesis. I felt that the findings from the study, together with working experience of students missing their exams due to anxiety highlighted the importance of exploring the emotional consequences of dyslexia and coping further in the thesis.

### The Thesis

The experience of doing the thesis, although stimulating, and a task in which my knowledge levels for my professional development have been significantly broadened, I would also say it has been exhausting and life consuming. Writing up a coherent argument at this level and on this scale presented difficulties. I found that data swirled around in my head and thoughts of the work, no matter where I was, or what I was doing, day or night were always there. As a person previously terrified of numbers, I found embracing statistics particularly challenging. I also read endless academic papers which were both enriching and intellectually demanding. The work did become harder as the thesis progressed, probably because I became more proprietorial over the work and became more obsessive with perfectionism. Despite the challenge of the study, which overall, I have immensely enjoyed, I have emerged as a far more analytical thinker and more confident and effective practitioner. My aim from the initial onset of the EdD was to make myself a better tutor, to support dyslexic students more adequately by helping to alleviate that sense of frustration and anxiety that I myself felt as a child, when I couldn't understand why it was difficult to learn certain things. This journey, I believe has enabled me to fulfil that objective.

## The Future

The whole process of reflection, an imperative element of the EdD programme, has been essential for enabling the evolution of ideas to grow. Schon's (1983) concept of 'reflection on action' and 'reflection in action' are particularly pertinent for the necessity of taking a step-back from the research experience, to generate the space required for the evaluation and germination of ideas in terms of what works effectively and what needs to be re-visited and re-worked.

Moving overseas to Hong Kong for two years, is going to enable the taking of a step-back from the research, whilst at the same time presenting new opportunities to implement knowledge gained from the experience of undertaking the thesis. Hopefully, I can now take my developed professionalism to a different sphere. On arrival there, I would like to continue my work as a dyslexia practitioner and would like to learn about international comparisons between what is being done and known about in Hong Kong, compared to what is currently being done in the UK. I hope that this exciting city will provide a mutual relationship, whereby I can gain new knowledge and experience internationally to broaden my mind on dyslexia, yet I also aim to make my mark by bringing my own contributions to the field.

Additionally, as I have concentrated so intensely over the course of the last six years on completing the EdD programme and on writing the thesis, a future agenda is that I would now like to concentrate on getting my work published. I have identified several journals such as *Dyslexia: An International Journal of Research and Practice*; *Journal of Learning Disabilities* and *Journal of Higher Education Research and Development* in which I aim to submit papers. I feel that this work is just the start and I have plenty left to achieve in my contribution to the area of dyslexia in higher education.

## ***Chapter 1: Introduction***

This thesis uses a two-staged mixed method study design to focus on adult dyslexic higher education students and their experiences with anxiety and coping. Stage one of the research uses a quantitative survey to test the hypothesis that adult dyslexic learners in higher education have a higher prevalence of academic and social anxiety than their non-dyslexic peers. Stage two of the study uses qualitative semi-structured interviews and applies a deductive to inductive interview approach to explore emotional consequences of studying with dyslexia and the ways in which adults with a diagnosis of dyslexia cope both cognitively and emotionally. Section 1.1 of this chapter provides the rationale for the study and how this derived from a combination of a problem I identified in my professional context, together with the findings I obtained from the smaller scale Institution Focused Study. I then provide the statement of the research problem and outline the research hypothesis and the research question, originating from the problem which is the central focus of the thesis. Finally, I present definitions and clarification of some key terms used throughout the thesis.

### **1.1 Rationale**

#### **1.1.1 Professional Context**

In my professional context, I am a dyslexia study skills support tutor based at a small central London dyslexia consultancy called the Independent Dyslexia Consultants. The students for whom I provide support and tuition are all aged 18+ and have a formal diagnosis of dyslexia. They study at various colleges and universities at degree and postgraduate degree level throughout the London area. The universities that the students attend are high ranking and therefore have usually required students to meet relatively challenging entry criteria. Consequently, it can be said that these dyslexic individuals are relatively high functioning academically in terms of literacy levels. For the student to be enabled

to be in receipt of support tuition, they are required to have an Educational Psychologist's report stating that they have been screened for and diagnosed with dyslexia. This diagnosis then enables the student to be eligible for the Disabled Student Allowance (DSA). The DSA is granted to the student through the government run organisation Student Finance England and provides the student with funding for approximately 20 to 30 hours per academic year of one-to-one study support tuition from a specialist dyslexia support tutor. In the support sessions, the student will discuss areas of academic weakness and will learn a varied range of study strategies that they can apply to overcome academic obstacles. The DSA grant also enables the student to be provided with a lap top computer supplied with specialist software as an aid for their coursework.

In my professional experience as a dyslexia support tutor, I have frequently worked with students with dyslexia who can excel academically. However, negative emotional consequences of studying with dyslexia may have a detrimental effect upon their academic progress. For example, during my working practice, I have experienced students with high levels of intelligence who have refused to undertake assessed elements of their course, such as exams, or presentations, due to the anxiety, or stress that these types of academic tasks generate for the student.

Additionally, provision from dyslexia practitioners has to date been focused on the delivery of effective cognitive study skills strategies (Gribben, 2012; Hargreaves, 2012) and there is much less emphasis on supporting students with developing techniques to manage anxiety and stress in relating to their academic course. Yet, if negative emotional consequences are exacerbated, this may prevent the student from successful completion of their chosen course of study and could potentially have a more harmful impact on student progression than the cognitive deficits associated with dyslexia. Consequently, a study focusing on looking at ways of

improving dyslexia support tuition through seeking to understand the emotional consequences is timely.

Furthermore, what is enlightening in my professional role is the often-innovative ways that some students with dyslexia are applying, somewhat more cognitive than emotional coping mechanisms, to deal with the demands of working in an academic environment. Thus, I would argue in agreement with Snowling, (2000), that there is a need for further research to develop an understanding of the compensatory, coping strategies and strengths that adult university students with dyslexia are utilising to deal with overcoming barriers with their studies.

This study therefore addresses the gap identified by Snowling through exploring the views of dyslexic adult learners and their experiences of using coping strategies. Furthermore, it is important to understand and identify the study tasks associated with higher levels of stress and anxiety for these students and what methods, if any, these learners have developed to cope, as this will inform and be implemented into my practice.

This study will enable me as a dyslexia practitioner to have a deeper understanding of academic tasks associated with higher levels of anxiety, by looking at ways that these students currently cope both cognitively and emotionally. It will also inform me of useful cognitive strategies used by the students to trial with new learners during practice and raise awareness of whether there is indeed a neglect in dealing adequately with negative emotion in supporting dyslexic higher education students.

This type of pragmatic research is necessary. Existing literature on dyslexic difficulties (Vellutino, Fletcher, Snowling, Scanlon, 2004; see also Boada & Pennington, 2006; Snowling, Gallagher & Frith, 2003), which influences methods used by dyslexia tutors, is limited and is predominantly focused on reading and literacy difficulties. Not addressed are the co-occurring aspects of dyslexia, both

cognitive and emotional, which are more pertinent for an understanding of working effectively with the adult dyslexic learner.

### **1.1.2 Findings from the Institution Focused Study**

The thesis extends the work previously carried out for my *Institution Focused Study* (2015), which also used a mixed method approach. Qualitative interviews with seven students with dyslexia were undertaken in phase one of the study to discover types of coping methods being used to deal with specific study tasks at university. In phase two, a quantitative survey was used for gathering data on ways of coping and was completed by 35 students, all of whom had a diagnosis of dyslexia. The current study was derived from and influenced by the unexpected findings of the survey in the IFS report relating to students' levels of anxiety. The survey that was used in the IFS was developed from items used in three instruments: *The Adolescent Coping Scale* (Frydenberg & Lewis, 1993); *the British Dyslexia Associations Mentoring Questionnaire* (<http://www.bdadyslexia.org.uk>); and a questionnaire used during my Master's in Special and Inclusive Education at the Institute of Education, developed by the author for the aim of identifying academic barriers for students with dyslexia whilst at university. A five-point Likert scale was employed and there were 30 items. Students ranking 1 as 'very poor' on the scale indicated a high level of anxiety, whereas students ranking themselves as 5 as 'very good' indicated a low level of anxiety (please refer to Appendix A for a copy of the survey). Results showed that items associated with generalised anxiety and worry were ranked highly by participants. For example, item 'worrying about what will happen to me', was ranked by 11 participants as 'sometimes', 7 ranked 'often' and 7 ranked 'a great deal'; the item 'blaming myself' was rated by 10 participants as 'used sometimes'; 'used often' by 7 and 'used a great deal' by 3. The results indicated a higher than typical prevalence of negative emotional consequences, such as worry and self-blame in some, but not all dyslexic learners at university. Thus, these findings highlighted the importance

of exploring this further to gain a greater understanding of the dyslexic university student, firstly, in terms of how a range of emotional factors such as anxiety, worry, blame and low confidence potentially associates with a range of consequences for how these students' approach learning and, secondly, to examine potential proactive methods of coping used by the sample.

To extend the IFS findings it was considered important to gather responses from a much larger sample and to enable differences with a comparison group of non-dyslexic peers to be evaluated. Furthermore, an exploration of the student approach to learning in terms of emotional responses to study tasks and coping strategies has also been extended through the undertaking of 20 in-depth individual interviews, which has provided much richer data for the identification of themes than had originally been achieved in the seven interviews conducted for the IFS.

## **1.2 Statement of the Research Problem**

From the combination of my working experience in a professional context, the findings from my small-scale IFS, it is likely that university students with dyslexia may suffer from higher levels of anxiety than their non-dyslexic peers (Carroll and Illes, 2006; see also Jordan, McGladdery, & Dyer, 2014; Nelson, Lidstrom, & Foels, 2015). Whilst the results from the IFS report were consistent with this prediction in that students' reported anxiety, this needed to be investigated with a larger sample in comparison to a non-dyslexic comparison group. It is important to identify the extent of and types of anxiety amongst the dyslexic student population as this is likely to have consequences for learning and progression. It is only through this identification that dyslexia practitioners are better able to understand the individual student's emotional needs more effectively and to devise techniques to support this area. There is also currently a gap in the research that is centred on the student voice and their experiences of anxiety and perspective on the ways that they are coping both cognitively and emotionally with their studies. It is

through the dyslexic student perspective that practice can be informed and developed more appropriately.

### **1.3 The Hypothesis and the Research Question**

The hypothesis and following research question to address these areas of concern discussed above are:

1. Hypothesis: Adult dyslexic learners in higher education have a higher prevalence of academic and social anxiety than their non-dyslexic peers.
2. Research question: What are the emotional consequences of studying with dyslexia, and how do adults with a diagnosis of dyslexia cope both cognitively and emotionally within an academic context?

### **1.4 Definition of Key Terms**

#### **1.4.1 Academic Anxiety and Social Anxiety**

It needs to be made clear here that anxiety in the context of the thesis is defined as academic anxiety (Putwain, Daly, Chamberlain, & Sadreddini, 2015), which specifically is anxiety connected to and affecting academic performance, and social anxiety which refers to the fear of social situations involving interaction with other people (Trower, Bryant, & Argyle, 1978). In this context social anxiety is connected to the academic environment only and situations, such as seminar debates, presentations, etc. Thus, in the use of academic and social anxiety in the thesis, I am at no point referring to clinical anxiety and the sample used for the study has not included adults with a formal diagnosis of generalised anxiety disorder.

### **1.4.2 State and Trait Anxiety**

Anxiety whether academic or social can also be divided into the categories of state and trait anxiety. For example, the state-trait model of anxiety (Cattell & Scheier, 1961) a psychological model consisting of 40 self-report items pertaining to anxiety affect, has been administered in many studies for the purposes of measuring the two types of anxiety within various groups (Spielberger, Gorsuch, & Lushene, 1983; see also Boyle, Saklofske, & Matthews, 2015; Tilton, 2008). State anxiety describes the experience of fear, nervousness and discomfort induced temporarily by situations perceived as dangerous. Whereas trait anxiety refers to a more stable tendency to experience fear, worry and anxiety across many situations. I was interested in looking at both state and trait anxiety.

### **1.4.3 Coping**

It is necessary to make it explicit here, that there is a distinction in the context of this thesis between coping strategies used to compensate for cognitive difficulties and coping strategies used to help to deal with emotional difficulties. Thus, this research is interested in looking at what students with dyslexia are doing, or are not doing, to cope both cognitively and emotionally.

There has been very little prominence in research on the significance of the relationship between coping and emotion. Yet, an understanding of how these two concepts interact is important for Dyslexia Support Tutors to recognise, in terms of being in a position to identify whether it is the intensity of the student's emotions, such as high levels of anxiety that is interfering with learning, or whether it is lack of knowledge on coping techniques for dealing with negative emotion that is impacting on learning adequately.

### **1.4.4 Cognitive Coping**

In this context cognitive coping refers to developing cognitive and behavioural learning efforts to manage academic demands that are appraised as taxing. For

example, the IFS study looked specifically at cognitive coping strategies used by students with dyslexia. Students with dyslexia reported using multisensory and active learning techniques to help to cope with processing, absorbing, retrieving and retaining the information. This involves using a combination of auditory, kinaesthetic and visual learning styles to make the learning process more active. For instance, students with dyslexia were using assistive technologies such as Read and Write and ClaroRead to have reading materials for their studies read aloud through the computer activated voice. They were underlining, and highlighting text using a combination of coloured pens and were also working in pictures, i.e. transferring black and white linear text into visual diagrams through using storyboard pads and flow charts. However, whilst there was evidence of cognitive coping in the sample of dyslexic adults in the IFS study, there was little evidence of strategies that these students used to help to deal with emotional consequences.

#### **1.4.5 Emotional Coping**

Emotional coping includes using strategies to manage intense feelings and physical stress that accompanies difficult situations. For example, stress management strategies, relaxation techniques and participating in sport and recreational activities, etc. are considered forms of emotional coping in this thesis to alleviate negative feelings such as anxiety and worry. It was evident from the findings of the IFS study that very few participants dealt adequately with coping emotionally. For instance, it was clear that very few of the participants were taking time away from their studies to participate in exercise or were finding other ways of reducing the anxiety and stress.

### **1.5 Structure of the thesis**

This chapter has provided the rationale for the study and has presented a statement of the research problem. Chapter 2 examines current literature on adult

dyslexia in the university setting, with particular reference to: (i) understanding adult dyslexia which discusses definitions of dyslexia and summarises theories on various causes of dyslexia, (ii) research on dyslexia and higher education, (iii) research on dyslexia and emotional consequences, and finally, (iv) research on dyslexia and academic coping. Chapter 3 outlines the theoretical framework for the study and discusses theories of anxiety and coping which contribute to our understanding of dyslexia and its association with anxiety and with coping. Chapter 4 provides an outline of the methodological approach used in the research, and data collection and analysis processes are described, as are ethical considerations and my position as an insider researcher. Chapter 5 presents the findings from the data. Chapter 6 discusses and interprets the findings in relation to the background literature presented in the theoretical framework chapter. I also outline some limitations of work in the thesis, and I discuss the implications of the findings and provide some insights into relevance for my professional practice, and I make some recommendations for further work in the area.

## ***Chapter 2: Literature Review***

### **2.1 Introduction**

In this review of the literature, I begin the chapter by providing a working definition of adult dyslexia, which most closely describes the students with dyslexia that I currently work with. I then present a discussion of the complexities around various causal theories of dyslexia. This helps to highlight and conceptualise the heterogenous nature of adult dyslexia as a spectrum condition with an array of difficulties that the adult student may face whilst at University. I then move on to review previous research undertaken on dyslexia in higher education, which shows that the focus has been on cognitive deficits with limited work on dyslexic student experiences of emotions and coping connected to their studies. The limited nature of this work is further reinforced in the section on dyslexia and emotional consequences, which shows that previous work has primarily focused on the association of dyslexia with externalising disorders (displayed through maladaptive forms of behaviour) and internalising disorders (anxiety and depression) by predominantly centring this research on children and adolescents, with an almost total absence of research in relation to adulthood. Furthermore, these studies have provided no place for positioning of student voice and verbalisation of individual experiences. Dyslexia and academic coping has also been given very little attention in previous research, which is shown in the final section of this review.

### **2.2 Search Strategy**

The literature search involved undertaking a review and evaluation of research completed previously on adult students with dyslexia in higher education. Databases searched included: The British Education Index (BEI); Web of Knowledge / Science; and Education Resources Information Centre (ERIC). Search

terms entered were as follows: dyslexia and adults and higher education; dyslexia and anxiety; dyslexia and coping; dyslexia and academic coping.

The research hypothesis and question and the aims of the study also informed the inclusion and exclusion criteria for the literature review. For example, the use of an inclusion and exclusion criteria for the literature search, meant that limitations could be applied to the search results to ensure that only literature relevant to the area was being reviewed. Table 2.1 below lists the inclusion and exclusion criteria used; the rationale for this and the limitations of applying these to the search strategy:

*Table 2:1 - Inclusion and exclusion criteria for the literature search*

Inclusion	Exclusion	Rationale	Limitations
Databases Searched:			
The British Education Index (BEI); Web of Knowledge / Science; Education Resources Information Centre (ERIC)	Databases not specialising in special educational needs and education research.	The selected databases allowed for a systematic search of relevant materials. I was also able to target the search through selective keywords to restrict the topic and to focus on a narrow area of literature.	There may be research that is of value to this literature review that was not included in the selected databases.
Keywords Searched:			
Dyslexia AND adults AND higher education; dyslexia AND anxiety; dyslexia	Words which are too general, abstract, or are stop words and words with	The words and phrases used are specific to the research topic. Combining terms	Keyword searches may fail to retrieve materials that don't

Inclusion	Exclusion	Rationale	Limitations
AND coping; dyslexia AND academic coping.	numerous synonyms.	with the Boolean operator AND found documents containing both words.	specifically use the search term.
Other Search Activities:			
Retrospective search involving looking at the most recent materials first and then working backwards.  Citation search involving following up references from useful articles and books.  Using Google Scholar.		The mixture of approaches from systematic, retrospective, citation searching and targeted searching through using keywords enabled an in- depth and rigorous search of the materials relevant to the topic.	Selecting a cut-off point for searching the literature as valuable research may be published at the end of the writing process.
Research Papers Included:			
Peer reviewed research	Not peer reviewed research	This criterion is implemented to ensure standards of quality and credibility are maintained throughout the literature reviewed.	Non-peer reviewed research may be innovative and original.
Design of Studies:			

Inclusion	Exclusion	Rationale	Limitations
Research methods that are sound and can demonstrate appropriateness in methods selected for answering the research question and validity in data collection and analysis.	Research using inappropriate methodology; or appropriate methodology used poorly whereby results are misleading.	Unreliable and inappropriate methods produce unreliable results and therefore cannot be used as evidence in the literature review.	
Demographics			
Preferably studies on adults (18 years old and over). Yet studies on children have been included as a comparison.		The purpose of this literature review is to evaluate previous research work on dyslexia and higher education in an adult population (18+) and hence, child (under 18) studies, although still included if the research is particularly pertinent for this topic, are not as prioritised in the review.	There may be relevant information on children in this area that could shed light on aspects of adults within this area too.

In the next section, I provide a definition of adult dyslexia. I then present an explanation on ambiguities with regard to definitions of dyslexia and the various disputes over causes of dyslexia. This enables a greater understanding of dyslexia as a spectrum disorder and comprehension of the varied range of difficulties and strengths that may present in the adult dyslexic student. This has implications for professional practice as a dyslexia support tutor, as the adult dyslexic student is unique in terms of their manifestation of areas of academic weakness and requires specific forms of individually tailored support.

### **2.3 Understanding Adult Dyslexia**

A useful definition for adult dyslexia, because it takes co-occurring difficulties associated with dyslexia into consideration, which helps us to understand the types of difficulties encountered with studying at university, is provided by Rose's (2009) six-part definition. This definition not only describes the characteristic features of dyslexia at the cognitive level as 'difficulties in phonological awareness, verbal memory and verbal processing speed' (Rose, 2009, p.10), but also acknowledges that there are other connected difficulties experienced by some (but not all) individuals with dyslexia: 'co-occurring difficulties may be seen in aspects of language, motor co-ordination, mental calculation, concentration and personal organisation, but these are not, by themselves, markers of dyslexia' (Rose, 2009, p.10). These co-occurring difficulties are often prevalent in the individual students that I work with and they often require a varied range of interventions.

Accordingly, dyslexia can manifest itself as a difficulty with a varied range of cognitive processes. Whilst phonological coding is a core deficit, descriptions that include the full spectrum and range of associated difficulties caused by dyslexia are more beneficial for an understanding of the heterogeneity and individual differences, in terms of both strengths and difficulties, that exist amongst the adults with dyslexia participating in this study.

However, historically, definitions of dyslexia have been riddled with uncertainties. For example, Rice and Brooks (2004) on the definition for adult learners' with dyslexia specify that 'there are many definitions of dyslexia but no consensus. Some definitions are purely descriptive, while others embody causal theories. It appears that 'dyslexia' is not one thing but many, in so far as it serves as a conceptual clearing-house for a number of reading skills deficits and difficulties, with a number of causes.' (Rice & Brooks, 2004, p.11). Consequently, there are multiple definitions of dyslexia. Furthermore, Rice and Brooks, (2004), go on to say 'there is no consensus, either, as to whether dyslexia can be distinguished in practice from other possible causes of adults' literacy difficulties. Many 'signs of dyslexia' are no less characteristic of non-dyslexic people with reading skills deficits. In our present state of knowledge, it does not seem to be helpful for teachers to think of some literacy learners as 'dyslexics' and of others as 'ordinary poor readers'. (Rice & Brooks, 2004, p.11). This confusion is further confounded by Elliott and Grigorenko (2014) who argue that the diagnostic label of 'dyslexia' is problematic as the criteria that the diagnosis is based upon is scientifically questionable and conceptually ambiguous. They argue that there is no substantial evidence to separate those diagnosed and labelled as dyslexic apart from 'poor readers'. (Elliott & Grigorenko, 2014).

Consequently, Hynd and Cohen (1983) suggest that a 'reason why the question of definitions of dyslexia has not been given greater emphasis in the literature is due to the ambivalence over the nature of the characteristics that constitute dyslexia. They state: 'attempting to define dyslexia can be one of the thorniest problems related to the study of this condition' (Hynd & Cohen, 1983). This leads to uncertainty over prevalence and disputes over causes.

Next, the main causal theories applicable to the adult students with dyslexia that I currently work with are discussed below. Single theories of dyslexia are discussed first, followed by discussion of this as a multiple deficit model.

### **2.3.1 The Phonological Theory**

Predominantly researchers claim the cause is the phonological deficit (Bradley & Bryant, 1978; see also Boada & Pennington, 2006; McDougall, Hulme, Ellis & Monk, 1994; Snowling, Gallagher & Frith, 2003; Snowling, Van Wagtendonk and Stafford, 1988). However, a problem with research on causal theories is that studies have mainly been conducted on school age children (Frith, 1985; see also Liberman & Shankweiler, 1985; Snowling, 1990). As Tanner argues 'whilst there is a wealth of literature about childhood dyslexia, adult dyslexia remains relatively undocumented' (Tanner, 2009). Whilst this empirical work on dyslexic children has been valuable as it has provided the necessary substantial evidence to suggest that a way of identifying potential dyslexia in children is the child presenting with the difficulty of mapping letters to sounds – phonology and difficulties with phonological coding (Snowling, 2000), this understanding of dyslexia is too focused on reading disorders and cannot be usefully applied to understanding dyslexia in adult students. This is because, in my own professional experience, the dyslexic university student has usually developed knowledge, skills and compensatory strategies to deal with reading and spelling difficulties, but may have additional difficulties with organisational skills, which could impact negatively on planning structures for essay writing and managing time effectively.

Additionally, Stanovich, (1994), argued that dyslexia should not be diagnosed based on the child having a phonological deficit, because this deficit alone, provides no substantial evidence for distinguishing between a child with phonology problems due to dyslexia, compared with a child with phonological difficulties caused by low general cognitive ability (Stein, 2018). Stanovich therefore critiqued the idea of dyslexia being specifically a phonological problem without the consideration of other elements, such as sensory processing and other non-reading cognitive skills, like oral comprehension and non-verbal reasoning. Stanovich's argument here is more relevant for understanding adulthood dyslexia.

This is because although reading and slow reading speeds are still problematic for the adult dyslexic university student, it is problems with note taking during lectures, retrieving information from memory for exams, sequencing of visual non-verbal information, and organisation, that dyslexic university students also have difficulties with (Mortimore & Crozier, 2006). Due to this varied range of difficulties associated with dyslexia, from my own professional experience of working with adults with dyslexia whose areas of academic weakness vary immensely from one individual to another, the rationale for adopting the definition proposed by the British Dyslexia Association that discusses these co-occurring areas can be justified.

Furthermore, Stein argues that this predominant focus by researchers on the phonological connection with dyslexia, has caused it to become a linguistic, “psychological” condition, rather than a neurological one (Stein, 2018). For that reason, as the principal focal point in the field of dyslexia, has been based on assessing phonological deficits in children diagnosed with dyslexia, this has been at the expense and detriment of acknowledging other sets of difficulties associated with dyslexia, and the implications that these can have for the individual adult dyslexic university student. In addition, McLoughlin, Leather & Stringer (2002) are critical of these types of empirical studies and argue that they fail ‘to provide a complete picture’ of specifically adult dyslexia through the dominant emphasis on deficits and cognitive disorders associated with literacy development. For instance, the British Psychological Society (BPS) describes dyslexia as ‘evident when accurate and fluent word reading and / or spelling develops very incompletely or with great difficulty’ (the British Psychological Society, 1999) (<https://www.bps.or.uk/>). This definition is limited in scope when applied to an adult dyslexic learner, as its focus is on literacy learning and development at the ‘word level’. There is no mention of underlying associated difficulties, such as deficits with working memory; information processing, and the difficulties a

dyslexic adult student may have with time management; organisation; concentration; etc.

### **2.3.2 Temporal Processing Theory**

So, whilst the dominant hypothesis and research in the area suggests that the cause of children's reading problems is phonological, this has led to further investigation into the underlying causes that manifest and exacerbate the phonological difficulty. It has been argued that this is due to weaknesses in temporal processing, which leads to difficulties in the linear sequencing of sounds and letters in a word (Goswami, Power, Lallier, & Facoetti, 2014). The temporal processing hypothesis is plausible when applied to the difficulties experienced by dyslexic university students, which relate to processing auditory, visual and sensory information and struggling not only with speed of reading but with understanding and effectively processing auditory information in lectures and debates, and efficiently following rapid verbal information in the form of instructions.

Stein (2018) argues that there is now overwhelming evidence that it is failure to acquire the abilities to sequence accurately the order of sounds in spoken words, and the order of letters in written words that characterises dyslexia, and that these are deficiencies that probably underlie many reading problems (Francisco, Jesse, Groen, & McQueen, 2017; Stein, 1993). This difficulty in sequencing sounds in spoken words is prevalent in some adult students with dyslexia, and it creates anxiety around presentations and seminar discussions, as it impacts on the student's ability to feel confident in undertaking these types of academic activities. Furthermore, Stein on discussing screening assessments used for diagnosing dyslexia, which generally look for discrepancies between phonological performance and general cognitive abilities, states that 'revealingly the largest discrepancies are found in dyslexia when poor performance in tests which call on temporal processing, such as rapid naming, sequencing and handwriting, is

contrasted with much higher scores in oral comprehension and untimed non-verbal reasoning' (Stein, 2018, p.318). This is further indication that the underlying nature of the phonological difficulty is centred on the deficit with temporal processing. This is helpful for our understanding of adult dyslexia as it enables us to comprehend that some adult dyslexic university student's difficulties are not merely confined to problems with reading, but are in all aspects of processing auditory, visual and sensory information.

### **2.3.3 Visual / Magnocellular Theory**

To add to the complexity further, other researchers focus on the cause being a visual transient / magnocellular deficit. According to Stein (2018), the visual transient / magnocellular system is the pathway required for visual input to be effectively signalled to the cerebellum. This pathway is also responsible for controlling eye movements and the allocation of visual attention (Glickstein, Stein, & King, 1972). Researchers focusing on this area in terms of a potential cause of dyslexia have included Lovegrove, Bowling, Badcock, & Blackwood, 1980. They first suggested that impairment in the visual magnocellular system was a characteristic of children diagnosed with dyslexia. However, Lovegrove's findings failed to attract much attention until 1991 when Livingstone, Rosen, Drislane, & Galaburda, (1991) published two convincing observations that further linked deficits in the visual magnocellular system with dyslexia. Thus, Stein suggests that 'since then, the great majority of visual ERP studies have confirmed that many, but probably not all, people with dyslexia display impaired development of the visual magnocellular system (Hollants-Gilhuijs, Spekreijse, Gijsberti-Hodenprijl, Karten, & Spekreijse, 1998; Kubova et al., 2015; Schulte-Korne, Bartling, Deimel, & Remschmidt, 2004; Schulte-Korne & Bruder, 2010; Yamamoto et al., 2013) although this conclusion is still not without controversy (Skottun, 2014)' (Stein, 2018, p. 317). A manifestation of the magnocellular deficit is when students present with visual difficulties, often referred to as scotopic sensitivity,

and find reading black text on white backgrounds difficult. This causes visual strain and headaches, or the text may look blurred, or appear as though it is moving on the page. Additionally, the student may mistakenly skip words, or lines of text in their readings.

#### **2.3.4 Multiple Deficit Model of Dyslexia**

Researchers' who do not focus on separate causes of dyslexia include Pennington, (2012); and Frith (2002). Pennington's (2012) work on the multiple deficit model of dyslexia replaces theories that attribute dyslexia to a single underlying cause. In the Pennington, Santerre-Lemmon, Rosenberg, MacDoald, Boada and Friend.. (2012) study, the researchers' goal was to test single versus multiple cognitive deficit models of dyslexia. To accomplish this goal, Pennington et al., (2012) tested five cognitive models of dyslexia – two single deficit models, two multiple-deficit models, and one hybrid model to determine which model predicted the best fit to the profiles of a sample of 83 dyslexic children ranging in age from 8-18. Results of the study revealed that out of the five theoretical models tested, model 1- (single phonological deficit) was rejected because only 11 out of the 83 cases fit the model. Model 2 (single deficit subtypes) was also rejected, as this only applied to 20 individuals from the 83. Model 3 (phonological core, multiple deficit, multiple predictor model) was rejected as this only fit 17 from the 83. Likewise, model 4 (multiple deficit, multiple predictor model) was only slightly better than model 3 accounting for 18 from 83. The remaining model, the hybrid model, which encompassed models 2 and 4 accounted for 38 cases, or 46% of the entire sample. Thus, Pennington et als., (2012) study shows that not all individuals with dyslexia show a phonological deficit and conversely not all individuals with a phonological deficit have dyslexia. Consequently, Pennington et als., (2012) work shifts the causal theory of dyslexia debate forwards from searching for a single deficit to an understanding that the aetiology of dyslexia is complex and can involve multiple deficits. Frith also has a wider view of the basis for dyslexia. For example, Frith

(2002) proposes a three-levels framework for understanding dyslexia in which the three levels are integrated and not confined to separate levels. The three levels are, firstly, the biological, arguing that dyslexia is a neuro-developmental syndrome with a genetic origin and a basis in physiological brain dysfunction that people across the range of intelligence can experience. The second level is the cognitive which equates dyslexia with information-processing mechanisms and difficulties in 'speech processing, in visual or auditory perceptual processing, and in motor or temporal processing' (Frith, 2002, p. 47), and thirdly, the behavioural, linked to influences from environmental factors, such as parents, schools, friends, and the subject's own self-esteem (Helland, 2007). Frith (2002) argues that we need to link together these three levels and consider the impact of environmental and cultural factors which can either aggravate or ameliorate the condition to have a more informed comprehension of dyslexia (Frith, 2002).

#### **2.4 Research on Dyslexia and Higher Education**

As recognised by Pino & Mortari (2014), internationally, the number of students with disabilities enrolled on courses in higher education institutions (HEI's) is on the increase, with the most commonly reported disability being specific learning difficulties (SpLDs), which includes dyslexia, dyscalculia and dyspraxia. More recently, Grimes, Southgate, Scevak, & Buchanan (2018) pointed out that international trends indicate improved participation levels for students with a disability in higher education (Kilpatrick, Johns, Barnes, McLennan, Fischer, & Magnussen, 2016; Koshy & Seymour 2015; Newman, Wagner, Knokey, Marder, Nagle, Shaver, & Wei, 2011). Accordingly, higher education institutions have a legal requirement to accommodate students with a disability (Gabel, Reid, Pearson, Ruiz, & Hume-Dawson, 2016; Kilpatrick, Johns, Barnes, McLennan, Fischer, & Magnussen, 2016; Riddell and Weedon 2006), and for development of a socially inclusive culture to support this accommodation is required (Gabel et al., 2016).

Previous research on dyslexia and higher education has predominantly focused on analysing the effectiveness of inclusion of students with dyslexia at University but there has been relatively little investigation of issues around emotional wellbeing and the emotional consequences of dyslexia. Thus, the literature on dyslexia and higher education is characterised by the following themes: studies evaluating the adequacy of provision for dyslexic students at University (Mortimore & Crozier; 2006; see also Griffin and Pollak, 2009; Hadjidakou and Hartas, 2008; Hanafin, Shevlin, Kenny, & McNeela, 2007; Pollak, 2009) and research investigating the underlying cognitive and language deficits in dyslexic university students as compared to control groups of non-dyslexic students.

#### **2.4.1 Studies Evaluating the Adequacy of Support Provision for Dyslexic Students at University**

Some of the more valuable studies focusing on examining the adequacy of support and provision for students with dyslexia at university, employed a mixture of quantitative and qualitative methods to obtain the necessary viewpoints from samples of university students with dyslexia. These have included Mortimore & Crozier, (2006); Griffin & Pollak, (2009); Hadjidakou & Hartas, (2008); Hanafin, Shevlin, Kenny, & Neela (2007); Pollak, (2009). This research is important as it highlights particular cognitive difficulties that students with dyslexia may struggle with whilst at University, and also has implications for how the Universities are accommodating these needs. For instance, Mortimore & Crozier (2006) conducted a survey with 136 male students, 62 with dyslexia, and 74 without dyslexia, from 17 British higher education institutions. They found that students with dyslexia reported difficulties with a wide range of academic tasks, notably notetaking, organisation of essays and expressing ideas in writing. The students reported that to overcome these difficulties they were making use of resources available to them, such as using additional time for examinations; using assistive technologies; and accessing dyslexia support tutors. The findings of the study,

however, indicated that there were several unmet needs for these students in the area of provision of support for specific subjects; support with organising coursework; learning in lectures and developing academic writing skills. This study is useful as it highlights specific academic tasks where students with dyslexia are encountering difficulties and it pinpoints where support is lacking. Pino & Mortari (2014) reported a systematic review of published research. The aim of the study was to retrieve, evaluate, critically appraise and synthesise evidence from a range of studies on how the inclusion of students with dyslexia can be fostered within higher education institutions. To meet this aim, the authors systematic search retrieved 15 studies from the UK, USA and Europe that were included in the final synthesis. These 15 papers used descriptive designs and predominantly employed qualitative methods to explore dyslexic students' perceptions and viewpoints of the impact of teaching, support and accommodation in their learning experiences. From the evidence provided, Pino and Mortari were able to make recommendations for improving practice in higher education for students with dyslexia. These recommendations included: developing academic staffs' awareness of dyslexic students' needs through training; providing peer support for students with dyslexia to help with emotional needs and to offer the students the opportunity to build support networks with other dyslexic students. They also recommended that higher education institutions should be responsible for delivering a flexible combination of universal design for learning combined with more individualised support. The study has provided a useful overview of relevant information on dyslexic students' opinions of their university experiences and is particularly beneficial in that it is one of the few papers discussed here that has identified that dyslexic students have an emotional need and has therefore recommended the implementation of peer support. It does have limitations, however, as a systematic review. Firstly, despite studies being either included or excluded based on 'internal methodological coherence' (Pino & Mortari, 2014, p.350), it is not really clear why some studies were used, whilst others were

removed and the process to keep or eliminate seems to be based more on subjective choice of the authors, rather than on any set specified exclusion / inclusion criteria. Secondly, it is difficult to link the authors findings back to evidence from the literature. For example, although the authors have recommended that emotional and relational support should be provided to students with dyslexia by both professional staff and peers, the evidence for this recommendation was in fact only reported in one out of the 15 papers used. Additionally, the claim from dyslexic students stating that they would benefit from meeting other students with dyslexia was again only stipulated in one of the 15 papers. Thus, the findings appear to be overgeneralised in relation to the small quantity of evidence presented. Strengths of the study though, include papers selected by the authors had all used qualitative methods, which highlights the significance of how practice can be informed and improved through student voice.

Nevertheless, it is now important to further investigate not only types of academic tasks that may present problems for students with dyslexia by extending the work by Mortimore and Crozier, (2006), it is also necessary to understand more about emotional barriers to learning for these students. We need to know more specifically, in addition to using extra time for exams and accessing dyslexia support, what exactly these students are doing to cope with the cognitive demands of study tasks and to cope with negative emotional consequences manifested in the experiences of studying at University with dyslexia.

#### **2.4.2 Quantitative Studies Investigating Underlying Cognitive and Language Deficits of Dyslexic University Students Compared to Control Groups of Non-Dyslexic Peers**

Previously, research focusing on assessing cognitive deficits in dyslexic university students compared to control groups of non-dyslexic students focused more on literacy difficulties. For example, former work has shown that compared with peers, university students with dyslexia perform more poorly on tasks of

phonological processing (Bruck, 1990; Lefly & Pennington, 1991; Ramus, Pidgeon & Frith, 2003), word-reading accuracy (Bruck 1990), word-reading speed (Lefly and Pennington, 1991; Wiseheart, Altmann, Park, & Lombardino, 2009); working memory (Wiseheart & Altmann, 2018), and executive functions (Smith-Spark & Fisk 2007, see also Mccrea, Mueller, & Parrila, 1999; Smith-Spark, Henry, Messer, Edvardsdottir, & Zięcik, 2016). However, these types of studies are beginning to become more productive, as they have begun to focus less narrowly on literacy difficulties and are instead now looking at other associated dyslexic problems, such as speech and language production, which is valuable for understanding types of barriers with academic tasks faced by the adult student. For example, Wiseheart & Altmann (2018) investigated spoken sentence production in college students with dyslexia and the impact that working memory and vocabulary knowledge has upon ability to fluently produce speech. 23 college students with dyslexia were compared to 28 controls without dyslexia in tasks where they were required to produce sentences from stimuli comprising a verb and two nouns. Results showed that relative to non-dyslexic peers, students with dyslexia responded significantly slower and produced sentences that were significantly less precise in terms of fluency, grammaticality and completeness. This finding is important for understanding why some students with dyslexia have combined cognitive and emotional difficulties with study tasks that require verbal language production, such as presentations, speeches, participation in seminar debates, and the contribution of ideas and critique in classroom discussions. Furthermore, what is useful in the Wiseheart, & Altman (2018) study is to identify the type of assessment to use, the authors carried out an extensive review of previous work in the area, which enabled them to deduct that former studies in an adult dyslexic population have discovered: (1) vocabulary knowledge and semantic processing is well developed (Cavalli, Casalis, Ahmadi, Zira, Poracchia-George, & Cole, 2016); (2) syntactic processing requires additional effort, particularly for processes involved in automatic phrase building (Sabisch, Hahne, Glass, von Suchodoletz, &

Friederici, 2006) and syntactic integration (Johannes, Becker, Russeler, & Münte, 2007) and (3) working memory constraints likely underpin syntactic processing weaknesses (Robertson and Joanisse, 2010; Shankweiler and Crain, 1986; Wiseheart, Altmann, Park, & Lombardino, 2009). These studies are informative as they demonstrate a shift in research focus from literacy and phonology to cognitive and linguistic processes, and the impact that deficits in working memory have upon the efficiency of these skills. The authors go on to suggest that an important question which has not been adequately addressed in previous literature is the extent to which this profile of sentence processing in dyslexia also holds for tasks that require structured verbal output (Casalis, Leuwers & Hilton, 2012). These types of questions are necessary for understanding students with dyslexia who have word retrieval difficulties and problems with articulating themselves in a coherent and structured way, which may have emotional consequences within the university environment. In addition, the authors claim that their research investigating sentence production skills in college students with compensated dyslexia is significant because it demonstrates that spoken language in compensated dyslexia can be relatively vulnerable when the speaker is under stress, leading to slower responses with more dysfluencies, grammatical errors and incomplete messages (Wiseheart & Altmann, 2018). This point emphasises that when the dyslexic student has high levels of anxiety, or is in particularly pressurised situations, then the production of verbal language becomes even more problematic. An understanding of emotions connected to these difficulties and whether students have ways of coping is now required from the student perspective.

## **2.5 Research on Dyslexia and Emotional Consequences**

### **2.5.1 Studies on Comorbidity between Literacy Difficulties and Externalising Disorders in Children**

Fruitful studies in the area of comorbidity, defined as co-occurring difficulties between literacy and externalising disorders – mental disorders characterised by maladaptive behaviours directed towards an individual's environment, have included research looking at high levels of comorbidity between literacy difficulties and psychological disorders in children. For example, the association between reading difficulties and the elevated risk for externalising disorders, such as attention-deficit hyperactivity disorder (ADHD) has been consistently reported (Boyes, Tebbut, Preece & Badcock, 2018; see also Gilger, Pennington, & DeFries, 1992; McGee, Prior, Williams, Samrt & Sanson, 2002; Medford & McGeown, 2016; Romano, Babchiskin, Pagani, & Kohen, 2010; Shaywitz, Fletcher, & Shaywitz, 1995). Additionally, there is also evidence of the relationship between reading difficulties and Conduct Disorders (also referred to as anti-social behaviour disorders) (Boyes et al., 2018; see also Maughan, Pickles, Hagell, Rutter, & Yule, 1996; Medford & McGeown, 2016; Rutter, Tizard, & Whitmore, 1970; Terras, Thompson, & Minnis, 2009). The comorbidity between literacy and language difficulties and emotional and behaviour disorders (EBD) in children has also been documented (Anderson, Williams, McGee, & Silva, 1989; see also Benner, Nelson, & Epstein, 2002; Dockrell & Hurry, 2018; Hurry, Flouri & Sylva, 2018; Hurry & Sylva, 2007; Karande, Meht, Vishal, Kulkarni & Madhuri (2007); Riccio & Jemison, 1998; Stevenson & Graham, 1993. Whilst Lawrence (1971, 1985) investigated levels of self-esteem in children with reading difficulties and reported that poor readers had lower self-esteem compared to controls. The earlier (1971) study advocated an approach which taught basic literacy skills and nurtured self-esteem through counselling, as a more effective method to remedy this, than the more singular focus on literacy skills development. In relation to anxiety, some studies

(Paget & Reynolds, 1984; Rodriguez & Routh, 1989) have used self-report measures to look at differences between sample groups of dyslexic children compared to controls and have found significantly more anxiety in children with learning disabilities than the control groups.

### **2.5.2 Studies on Comorbidity between Dyslexia and Internalising Disorders in Children**

A few studies have suggested a strong association between dyslexia and internalising disorders (Fergusson & Lynskey, 1997; see also Frick, Kamphaus, Lahey, Christ, Hart & Tannenbaum, 1991; Harris & Sipay, 1985; Maughan & Carroll, 2006; Rourke, 1985; Smart, Sanson & Prior, 1996). For example, anxiety-related symptoms, such as lack of concentration, lack of interest and attention, distraction, emotional distress, tension, day-dreaming, phobias, fear of rejection, insecurity, aggressiveness, withdrawal and psychosomatic complaints have been common findings in case studies of children and adolescents with dyslexia who have taken part in various research studies in the twentieth century (Fisk, 1999; see also Gates, 1941; Gray, 1922; Hincks, 1925; Willcutt & Pennington, 2000; Silverman, Fite & Mosher, 1959; Swain, 1985). Whilst this literature provides some evidence that dyslexia is associated with internalising problems (depression and anxiety) in children, directions of causality are not clear.

Furthermore, valuable work has also been undertaken on adolescents with dyslexia and the emotional consequences of negative experiences in education before HE level. For example, Burden's (2008) in-depth study of 50 adolescent boys attending an independent specialist school for dyslexic children focused specifically on dyslexic adolescents' feelings of learned helplessness, self-efficacy and locus of control. Burden found that although the boys' initial academic self-concept was significantly lower than that found in the mainstream standardization sample, this increased as the boys moved up the school. Even more significantly, however, he also found very little evidence of learned helplessness and a high

degree of self-efficacy and internal locus of control. Burden claims that these findings raise 'the further issue of the context in which the dyslexic boys were being educated. It was clear that the ethos of the school in this case was one that was success orientated, and that attribution retraining, albeit at an implicit level, focused on effort and agency rather than notions of ability (Dweck, 1999) and this underpinned all aspects of the pedagogy (Burden, 2008, p.194). However, this work is focused specifically on adolescents and further work of this nature is now required to look at adult dyslexic students and the association with internalising disorders within the context of university.

### **2.5.3 Studies on Comorbidity between Dyslexia and Internalising Disorders in Adulthood**

The studies mentioned above demonstrate, that although there is now a growing amount of research on the connection between dyslexia and externalising and internalising emotional difficulties in children and adolescents within school, there is little research looking at these relationships in adulthood and the university environment. The small number of studies having looked at this have found that university students with dyslexia report higher levels of somatic complaints, social problems, lower self-esteem, and higher depression scores than their peers (Riddick, Sterling, Farmer, & Morgan, 1999; see also Carroll & Illes, 2006; Ghisi, Bottesi, Cerea, & Mammarella, 2016). Other limited studies in the area have looked at dyslexia and anxiety in specific subject areas, such as maths and statistics (Jordan, McGladdery, & Dyer, 2014), and in relation to specific study tasks, such as exams and timed tests (Nelson, Lindstrom, & Foels, 2015).

Riddick et al., (1999) investigated whether dyslexic adults' levels of self-esteem and anxiety are impinged when in high-literacy-demand situations. Their UK study used a sample of 16 dyslexic students aged between 18 to 42 compared to 16 non-dyslexic students with ages ranging from 19 to 35 to examine this. The dyslexic and control groups were asked to complete the Culture-free Self-esteem

Inventory (Battle, 1992), the State-Trait Anxiety Inventory (Spielberger, Gorsuch & Lushene, 1983) and a questionnaire created by the research team which asked about various aspects of their educational experiences. Their results revealed that on the Culture-free Self-esteem Inventory the dyslexic group had significantly lower self-esteem scores than the control group. Additionally, Riddick et al., (1999) comment that the low self-esteem of the dyslexic students fits with the overall picture given of their individual past and present learning experiences in the questionnaire.

Carroll & Illes's (2006) UK study assessed the prevalence of anxiety in 16 students with dyslexia compared to 16 students with no history of learning difficulties. A questionnaire was used to measure three specific areas of anxiety – academic, social, and appearance. Students were then given a timed reading test, using the Test of Word Reading Efficiency (TOWRE; Torgesen, Wagner, & Rashotte, 1999) and their state anxiety levels were measured using the State-Trait Anxiety Inventory (STAI; Spielberg, Gorsuch & Lushene, 1983). The results indicated that dyslexic students showed slower reading speeds than their controls, but more importantly for this investigation, findings revealed that dyslexic students had higher levels of state anxiety (fear, nervousness, discomfort induced temporarily by situations perceived as dangerous) and elevated levels of academic and social, but not appearance anxiety. Although the sample size used by Carroll and Illes was small, dyslexic students (N = 16) and a comparison group of non-dyslexic students (N = 16), they argue that dyslexic students in higher education show anxiety levels well above what is shown by students without reading difficulties and the anxiety is not solely limited to academic tasks but extends to many social situations.

Jordan *et al* (2014) asked 28 undergraduate students with dyslexia and 71 undergraduate students without dyslexia to complete a series of scales and questionnaires. Having a diagnosis of dyslexia was associated with higher

mathematics anxiety and, in addition, to having greater levels of worrying, denial, seeking of instrumental support and less use of the positive reinterpretation coping strategy (making the best of the situation by growing from it). This study is limited by focusing specifically on the subject area of mathematics, which now needs to be extended to investigate the extensiveness of anxiety with a varied array of subject areas and academic tasks.

The Nelson *et al* (2015) US study examined levels of test anxiety amongst 50 college students with dyslexia compared to 50 college students without dyslexia. Again, a series of scales and questionnaires was used including the Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV) as the authors wanted to explore within both the dyslexic and non-dyslexic groups, the relationships of cognitive abilities (i.e. general intelligence, verbal ability, non-verbal ability, working memory, processing speed, reading skills) and consequences for test anxiety, which is a combination of physiological over-arousal, tension and somatic symptoms, along with worry, dread, fear of failure, and catastrophising, that occurs before or during test situations. Results suggested that college students with specific reading disability (RD) (dyslexia) reported higher levels of test anxiety than those without reading disability, and from the cognitive constructs measured, it was found that lower scores in non-verbal ability and working memory correlated with higher levels of test anxiety. Similarly, to the critique of the Jordan *et al* (2014) study as it has narrowly focused on anxiety in relation to only one topic, mathematics, a critique of the Nelson *et al* (2015) study is that the work has a narrow focus in that it has looked at only one type of academic task, namely tests. This work now needs to be broadened by investigating the presence of anxiety, or of other negative emotions that the dyslexic learner may have with other varied forms of study tasks and assessment methods frequently administered by higher education institutions.

A recent UK study carried out by Stagg, Eaton, & Sjoblom, (2018) used a mixed method approach to look at self-efficacy (which refers to an individual's belief in his or her capacity to execute behaviours necessary to produce specific performance attainments) in undergraduate students with dyslexia. The study compared a sample of 22 undergraduate students with dyslexia between the ages of 18 to 32, with a sample of 22 undergraduate students without dyslexia also aged between 18 to 32. The first quantitative stage of the study involved participants completing two scales: an eight-item academic self-efficacy scale designed to cover a variety of skills relevant to academic achievement, followed by a 32 item sources of academic self-efficacy scale, which consisted of four subscales tailored to measure four sources: past achievements, vicarious experience, social persuasion, and psychological state. The second qualitative stage included undertaking non-directive semi-structured interviews with four dyslexic students and four non-dyslexic students. The interview approach used was deductive as the interview protocol was developed using Bandura's (1977) four sources of self-efficacy (as mentioned above) as a theoretical framework to explore the development of student's academic beliefs. Findings revealed that there was a significant difference between the dyslexic and non-dyslexic samples on both the self-efficacy scale with non-dyslexic students' scores being significantly higher than the dyslexic scores meaning that dyslexic students have less belief in their ability to academically succeed than their non-dyslexic peers. Stagg et al., (2018) report that 'of note were the low scores reported by students with dyslexia on the measure of 'physiological state', which measures physical and emotional discomfort in academic situations, and demonstrates that being dyslexic continues to have a negative psychosocial impact even in higher education.' (Stagg et al., 2018, p. 36). Additionally, the interviews revealed two main themes prevalent in the dyslexic sample as compared to the non-dyslexic sample: ability awareness; students with dyslexia seemed to be aware of their academic weakness; and the negative impact of past schooling and experiences from school

on the development of self-efficacy. This study is progressive. The combined method of following up on quantitative data through qualitative interviews, to establish that differences between self-efficacy scores of the two groups may be connected to the dyslexic sample focusing more on academic weaknesses and negative previous school experiences, has added prominence and meaning to the quantitative results through adding an extra layer of understanding. The interviews have also provided an outlet for the dyslexic undergraduate student voice in relation to barriers to self-efficacy to be heard. Stagg et al (2018) claim that the findings suggest university students with dyslexia still need interventions to help boost their self-efficacy profiles, despite the level of success they have achieved in gaining a place at university.

## **2.6 Research on Dyslexia and Academic Coping**

Interesting studies that have focused on the relationship between dyslexia and coping have varied from research looking at competency perceptions of children with dyslexia (Battistutta, Commissaire, & Steffgen, 2018); to studies looking at coping mechanisms of children with dyslexia (Riddick, 1996); studies centring on analysing coping strategies used by successful adults with dyslexia (Logan, 2009; Reiff, Ginsberg, & Gerber, 1995) research measuring levels of self-esteem, coping and depression in a sample of dyslexic teenagers (Alexander-Passe, 2006); and research focusing on coping strategies of university students with reading difficulties (Barga, 1996; Cowen, 1988). Alexander-Passe (2006) used three standardised tests: the CFSEI – the culture free self-esteem inventory (Form A) (Battle, 1992); the CISS – the coping inventory for stressful situations (adolescent version) (Endler & Parker, 1999); and the BDI-II-Beck depression inventory (Beck, Sterr, & Brown, 1996) to measure levels of self-esteem, coping and depression in a sample of 19 dyslexic teenagers aged 15-16 in the UK. The findings of the study revealed that there were differences between the 12 males and 7 females that took part in the research, with females using more emotional and

avoidance-based coping than males, resulting in females having lower scores in general and academic self-esteem than males. In comparison, males scored higher in task-oriented coping than females and lower in emotional-oriented, avoidance-oriented, distraction and social diversion strategies than the female sample. Putting the data together from the three standardized tests, Alexander-Passe concludes 'results suggest that teenage dyslexic females especially suffer from low general and academic self-esteem, strongly use emotional and avoidance-based coping, resulting in moderate depression. Their male counterparts seem to score normal for academic self-esteem or just below normal general, social and parental self-esteem. They use task-based coping with little use of emotional and avoidance coping, resulting in minimal depression.' (Alexander-Passe, 2006, p. 273).

## **2.7 Conclusion**

This review has provided evidence of differences in the research over definitions and causal theories of dyslexia, which exemplifies the heterogeneous nature of adulthood dyslexia. Additionally, the review has demonstrated that research on dyslexia and higher education has predominantly been characterised by the themes of examining the adequacy of support from the dyslexic student perspective which has raised important implications for provision from higher education institutions; and research primarily focusing on cognitive deficits of dyslexic students. This research, although valuable, has been undertaken with little importance or emphasis placed onto the emotional consequences and coping behaviours of students with dyslexia at university.

Furthermore, the limited research on dyslexia and emotional consequences, whilst providing evidence regarding the comorbidity between reading difficulties with externalising and internalising disorders, has primarily focused on children and adolescents, with a disregard in relation to how this potentially maps out onto an adult dyslexic learner and continues into adulthood in the form of internalised

anxiety at university level education. In addition, the few studies that have been conducted in this area (Alexander-Passe, 2006; Carroll & Illes, 2006; Jordan et al., 2014; Nelson et al., 2015; Riddick et al., 1991) have typically used small samples which makes the work difficult to generalise. Additionally, these studies tend to be single method, principally quantitative (Alexander-Passe, 2006; Carroll & Illes, 2006; Jordan et al., 2014; Nelson et al., 2015), and as such, results have not been followed up on a deeper level through the method of qualitatively validating further and triangulating the quantitative findings through interviews with participants. Despite these criticisms, these studies have provided a foundation for this research in implying that it is now necessary to investigate on a bigger scale whether dyslexic adult learners do in fact require more ongoing emotional support in relation to their studies, and to identify what they themselves are doing, if anything, to cope with the negative emotional consequences, such as anxiety whilst studying with dyslexia.

### **Chapter 3: Conceptual Framework**

This first section will discuss theoretical approaches to generalised anxiety, to evaluate the types of conceptualisations which may help with an understanding of the nature of anxiety in a sample of adult dyslexic university students. These broad categories of anxiety will then be explored further to look more specifically at models of academic anxiety, of relevance to dyslexic university student anxiety.

In the second section, I evaluate an influential theoretical framework for understanding coping responses in dealing with stress and anxiety proposed by Folkman and Lazarus's transactional model of stress and coping (1985) to determine whether this can adequately provide an identification of the type of coping actions used by the sample in the quantitative study. I argue, that this conceptualisation of coping has limitations and therefore propose that Skinner, Edge, Altman, & Sherwood's, (2003) formulation of 13 higher order categories of coping, based on their analysis of 100 previously used assessments of coping, provides a more fruitful framework for identifying coping responses typically used by the dyslexic university sample.

#### **3.1 Theories of Anxiety and Negative Emotion**

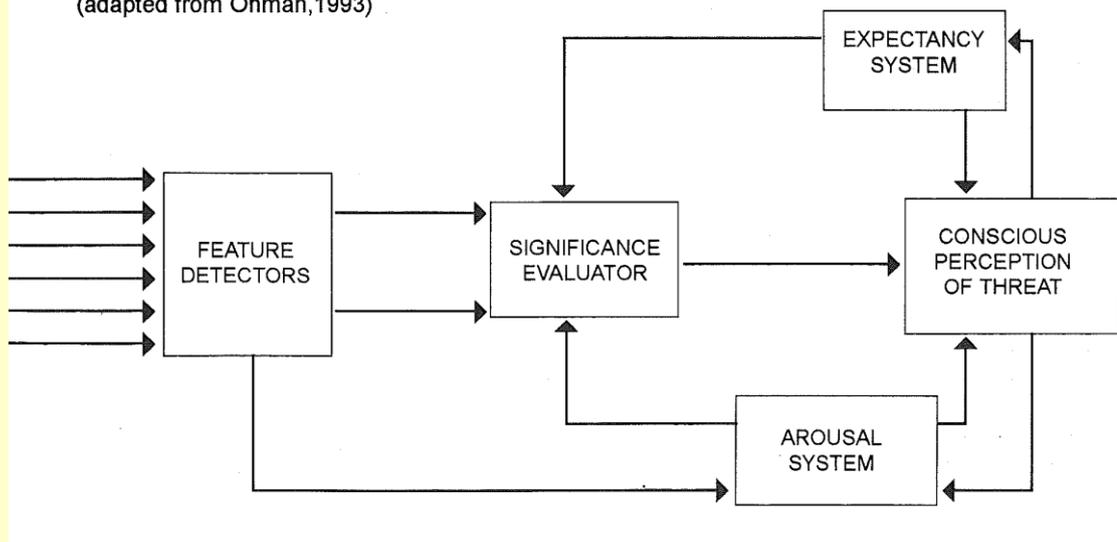
Theoretical approaches to anxiety fall into the broad categories of psychoanalytic (Freud, 1941; Sullivan, 1953); learning / behavioural (Dollard & Miller, 1950; Mowrer, 1963); physiological (Gray, 1982, 1987; Panksepp, 1982); cognitive (Eysenk, 1990; Ohman, 1993) and uncertainty (Mandler, 1984), a theoretical concept that threads through all of the above categories. Freud (1941) viewed anxiety as an everyday phenomenon and as a way of explaining neuroses. His first theory regarded anxiety as being a transformed libido with the transformation occurring due to repression. Thus, if a person is prevented or thwarted from carrying out some instinctive (sexually driven) act through repression then the consequence is anxiety (Strongman, 1995). Freud used the example of the threat

of the loss of the mother and separation of the mother and the implications of this for the developing child as a way of explaining anxiety. Freud's second theory reversed the repression-anxiety connection and instead regarded repression as a consequence of anxiety. For example, in this conceptualisation, anxiety is a signal from the ego about either real, existing, or potential danger. The unpleasantness of the threat causes anxiety which then leads to repression as a way of getting the person out of danger (Strongman, 1995). In this scenario, a dyslexic student may have an anxiety signal from the ego about the potential danger of ensuing exams, or presentations. The unpleasantness of the threat of exams then leads the student to repression, i.e. not participating in the activity as a way of escaping the danger. Later psychoanalysts, such as Sullivan (1953) unlike Freud's focus on separation anxiety, instead emphasised social environment as cause of anxiety. For students with dyslexia, the university environment can cause levels of distress to the extent whereby they find it difficult to function within that setting.

The physiological theory of anxiety implies that responses within the body are responsible for emotions (Gray, 1982, 1987). Within this theory Gray (1982, 1987) focused on the behavioural inhibition system which he theorised as a neurobehavioural system responsible for regulating negative affect and avoidance behaviour in response to threats or punishment. Gray suggests that individuals vary in the sensitivity of their system and this is associated with the personality factor of neuroticism as underpinning anxiety. Other physiological theorists, such as Panksepp (1982) conceptualised anxiety as a fight or flight response, which is the instinctive physiological response to a threatening situation, whereby the person either resists forcibly, or runs away to avoid the danger. Although physiological theory is interesting for explaining the bodily reactions to situations perceived as threatening, a more appropriate theory particularly for this study is the cognitive conceptualisation of anxiety (Eysenck, 1990). Eysenck argued that the cognitive system acts as a gateway to the physiological system, so in

attempting to understand anxiety, it is important to consider both systems. Eysenck's early (1984) experimental work, went onto show that there are differences between people who are high and low in trait anxiety (stable tendency to experience anxiety across many situations) dependent upon the information that they have stored in long-term memory. In his (1984) study of anxiety and the worry process, involving 44 participants selected due to their high scores on the trait measure of the State Trait Anxiety Inventory, he concluded that prolonged worry occurred mainly in those individuals who have highly organized clusters of worry-related information stored in long-term memory. In addition, Eysenck & Calvo, (1992) demonstrated that those who are high or low in anxiety, do in fact differ in the structure (content) and processes of cognition, which is further discussed below, in the *Theories of Academic Anxiety* section with the discussion on processing efficiency theory. Ultimately, as noted by Strongman, (1995) what is important about Eysenck's theory of (trait) anxiety is that it draws attention to the importance of the cognitive system, as well as the physiological and the behavioural. The cognitive dimension is also of importance when looking at the association between dyslexia and anxiety. As Eysenck reported in his 1984 study, individuals with higher levels of anxiety had worry-related information stored in long-term memory. Adults with dyslexia commonly report negative school experiences associated with reading (Helendoor & Ruijssenaars, 2000) and these memories, re-activate when similar threatening situations from childhood arise, such as reading aloud in class and taking exams, which may induce anxiety. This is consistent with Ohman's (1993) information processing model of anxiety, which is shown in the diagram below:

**Fig 1:** Öhman's Information Processing Model of Anxiety  
(adapted from Öhman, 1993)



*Figure 3:1 - Ohman's (1993) information processing model of anxiety*

As can be seen from the diagram, the model has five main processes. Stimulus information passes to feature detectors, which pass the information onto significance evaluators and the arousal system. The significance evaluators automatically evaluate the relevance of the stimuli. The meaning of the stimuli is analysed at this point and memory has an important part to play, which could be said to be an extension of Eysenck's work (1984; 1990). The arousal system can also exaggerate the stimuli to influence the significance evaluator. The significance evaluator also provides input to the conscious perception system. The expectancy system which is based on emotion being organised into memory therefore biases the significance evaluator to react to information which matches active memory nodes. This in turn gives information to the conscious perception system. For example, the re-activation of negative emotions stored in memory influences the significance evaluators to perceive certain stimuli or information as threat. If a dyslexic student has stored into memory emotions of being ashamed or embarrassed from the experience of reading out loud at school, in later adult years when faced with stimuli, such as being asked by a Lecturer to read aloud in a seminar, the arousal system of the student magnifies the request. This influences the student's significance evaluator to regard the request to read aloud as threat,

which inputs this threat to the conscious perception system of the student. Therefore, the student's expectancy system as it is activated by negative emotional memory biases the incoming information and makes a context for the interpretation of what goes into their conscious perception system. The conscious perception system is part of a much larger system incorporating the mind, consciousness, and the cognitive-interpretive system. It integrates input from the arousal system, the significance evaluators and the expectancy systems, and chooses suitable actions to deal with the perceived threat, in this case reading aloud, which may be through avoidance.

A final theory of anxiety is uncertainty (Mandler, 1984). Uncertainty is a concept that exists in all the theories of anxiety discussed above and as such, it is a core part of anxiety. Uncertainty is the basis of anxiety, as uncertainty is being unsure of the future, or of what course of actions to take in the face of a threat (Strongman, 1995). The core of Mandler's (1984) theory of anxiety depends on the link between anxiety and interruption. He uses the example of the cyclical distress of the new-born child and its first experiences of anxiety which are inhibited by the actions of sucking and rocking to bring it under control and the subsequent, repeated distress faced by the child due to the withdrawal of the inhibitors which then reinstates the distress. The important question posed by Mandler, is how does the arousal that stems from the interruption turn into anxiety? He went onto theorise that this occurs when there is no response available to the organism which will stop the interruption. This then leads to feelings of helplessness and disorganisation, which Mandler conceptualised as anxiety. Mandler went onto argue that helplessness turns arousal into anxiety through the unavailability of plans or actions that are relevant to the task or to the situation. The one thing that leads to helplessness is the interruption of plans or behaviour. This may degenerate further into hopelessness if it builds up, goes on for too long, or if there are repeated failures. This in turn becomes related to

the development of low self-esteem and may lead to depression. This formulation of anxiety is particularly pertinent for the adult dyslexic student. For example, dyslexic students with deficits in working memory struggle to function in exams as they are based on using memory processes effectively. They may find no actions available to them to overcome this difficulty, this then leads to helplessness and repeated academic failures, which then turns to low self-esteem and may lead to depression in later adult life. Consequently, Mandler's theory of an unavailability of plans or actions for dealing with threats and interruptions leading to helplessness and to anxiety, may help to shed light on levels of anxiety in a dyslexic sample. As Strongman (1995) suggests Mandler's theory is of note as although broadly conceived, it has a central role for cognitive factors and can also embrace specific issues of behaviour, experience and neurophysiology, which the other theories have also deemed as important.

### **3.2 Academic Anxiety**

To explore the nature of anxiety that dyslexic learners in higher education experience, current theoretical models associated with types of academic anxiety are now discussed to see how these models potentially inform the ways in which the dyslexic University student might encounter anxiety.

General academic anxiety can be broken down into more specific types of academic anxiety, such as test anxiety (Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi, & Harris, 2005), performance anxiety (Nicholson, Cody, & Beck, 2015) and social anxiety (Topham, Moller, & Davis, 2014). Each of these types of anxiety can interfere with and impact upon academic progression whilst at University. Various theories have evolved around these anxieties to better understand and explain these emotions. I will now evaluate these different manifestations of anxiety and the main theoretical models pertaining to each area as a way of providing a possible framework for explaining dyslexic University students' experiences with and of academic anxiety.

Academic anxiety refers to the feeling of being distressed, fearful, or stressed because of academic pressures (Theisen, 2017). Furthermore, as discussed in the theories of anxiety and negative emotion section above, anxiety can be separated into different components, including behaviour, psychological change, and cognition (Lang, 1985). Thus, I want to clarify in the context of this investigation and in view of the complexity of the concept of anxiety, the aspect of anxiety that I am specifically concerned with, is types of behaviour, including ways of dealing with anxiety through coping techniques, or on the other hand, non-coping. I am also investigating the impact of academic pressures and anxiety upon cognition.

### **3.3 Theories of Academic Anxiety**

To understand the relationship between anxiety and academic performance, Hadwin, Brogan, & Stevenson (2005) have proposed a theoretical model, the processing efficiency theory, or PET, which builds on previous processing models devised by Humphreys & Revelle, (1984); Sarson, (1984); and Eysenck & Calvo, (1992). This literature argues that worrying about performance and / or evaluation results in less capacity in working memory for conducting academic tasks and activities. Working memory, as part of short-term memory is a cognitive system responsible for the transient holding, processing, and manipulation of linguistic and perceptual information (Baddeley, 1999). For example, efficient working memory is necessary for conducting mental multiplication tasks, such as when required to hold numbers in short-term memory to carry over, followed by retrieving this information whilst simultaneously doing another component of the task. As defined by Baddeley (1999) working memory has three components: a central executive, a phonological loop, and a visual-spatial sketchpad. The central executive is responsible for the selection, initiation, and termination of processing information. This involves the tasks of encoding, storing, and retrieving information. The phonological loop deals with auditory and verbal information, such as speech. It also involves converting written words into speech and has the

capacity to retain letters, words, and numbers. The visual-spatial sketchpad is responsible for remembering visual images and spatial position (McLoughlin & Leather, 2013). Hadwin et al. (2005) propose that worry over academic evaluation may use up the capacity of the central executive and the phonological loop components of working memory. For instance, if task requirements make demands upon the central executive or phonological loop components of working memory, processing efficiency theory predicts that increased state anxiety will impair processing efficiency, i.e. how effectively the individual is able to deal with the requisites of the academic task. Furthermore, processing efficiency theory also postulates that increasingly complex tasks might also impact upon and impair academic performance in anxious individuals (Hadwin et al., 2005, p. 281).

Consequently, processing efficiency theory may possibly provide a useful lens through which to understand the complexities of the relationship between anxiety, dyslexia, and academic performance in adults. Hadwin et al., (2005) investigated the processing efficiency capacity on the working memory of children by splitting 30 children aged 9 to 10 years into two groups; a low anxiety, and high anxiety group, based on the results from the State-Trait Anxiety Inventory for Children. The children had no known diagnosis of specific learning difficulties or of dyslexia. The two groups were asked to undertake three different tasks requiring use of working memory. The first two tasks, forward and backward digit span are used to assess the phonological and central executive components of working memory. The third task, the spatial working memory task is used to measure the visuo-spatial component of working memory. After completion of the tasks, they were assessed by Hadwin et al., (2005), for task accuracy which was an indicator of performance outcome or effectiveness. 'Time taken to complete the task and a subjective rating of mental effort were taken as measurements of performance efficiency.' (Hadwin et al., 2005, p. 379). Although no differences were found between children in the high and low state anxiety groups in relation to task

accuracy, there were differences between the groups in time taken to complete the tasks, with children in high state anxiety group taking longer to finish the backward digit span task. Additionally, children in the high state anxiety group also reported more increased mental effort in the forward digit span task than children in the low state anxiety group which indicates some effects of anxiety on performance efficiency. Hadwin et al's., (2005) work has implications for students with dyslexia. Anxiety when engaging in academic tasks may reduce efficacy in adult students with a diagnosis of dyslexia, who are already at risk of difficulties with working memory (Shankweiler & Crain, 1986). Academic tasks with high demands on phonological working memory, such as reading, which involves the encoding of phonological information, and examinations, both written and oral, requiring the storing and retrieving of information, may be particularly vulnerable to be adversely affected by anxiety. Consequently, adult dyslexic students, who will typically have had trouble with such tasks in the past, may feel anxious when approaching them, giving rise to anxiety which will in turn undermine their ability to perform at their best, creating a vicious cycle. What are the coping techniques, if any, that students with dyslexia use to overcome these barriers and to flourish academically?

### **3.3.1 Theories of Test Anxiety**

As observed by Chapell et al., (2005) numerous theoretical models of test anxiety have been developed. These have included; the drive model (Mandler & Sarason, 1952), cognitive-attentional models (Sarason, 1972, Wine, 1971), skills deficit models (Benjamin, McKeachie, Lin, & Holinger, 1981; Culler, Holahan, & Ball, 1980; Kirkland, Hollandsworth, & Garfield, 1980), the self-regulation model (Carver & Scheier, 1984), the self-worth model (Covington, 1992), and the transactional model (Speilberg & Vagg, 1995).

Mandler & Sarason's (1952) study found that anxious college students performed more poorly on intelligence tests than students who were low in test anxiety, and

that decrements in the performance of highly anxious students were most pronounced when tests were administered under stressful, ego-invoking conditions. To explain these performance decrements, Mandler & Sarason (1952) assumed that two kinds of learned drives were evoked in testing situations. One set of drives, called 'learned task drives' is elicited by the demand characteristics of the task. These drives stimulate task-relevant responses that lead to the reduction of the drive through task completion. The second type of drive evoked in testing situations was labelled 'learned anxiety drive'. They assumed that two types of responses were elicited by learned anxiety drives: firstly, task relevant responses and secondly, task-irrelevant responses. The task irrelevant responses evoked by learned anxiety drives interfere with performance in testing situations. These anxiety-evoked responses are characterised by feelings of inadequacy, helplessness, heightened somatic reactions, anticipations of punishment or loss of status and esteem, and implicit attempts of leaving the test situation. Since these responses are self-centred rather than task oriented, they interfere with effective performance.

The cognitive-attentional model (Sarason, 1972; Wine, 1971) suggests that cognitively negative thoughts occur during assessments, such as exams, i.e. 'if I fail this exam my whole life is failure' whilst at the same time performance inhibiting difficulties that may arise from anxiety, such as the inability to recall facts and to read and understand questions becomes exasperated under testing situations. In contrast to the cognitive attentional model, the skills deficit model (Benjamin, et al., 1981; Culler, et al., 1980; Kirkland, et al., 1980) assumes that test-anxious students' reduced performance in assessments is due to deficient study or test-taking skills, rather than caused by interference due to cognitively negative thoughts and anxiety.

Covington's self-worth model (1992) contends that individuals have a need for affiliation, power, self-worth and self-esteem, and that individuals are always

motivated to establish, maintain, and promote a positive self-image. However, to preserve self-worth individuals can employ coping strategies that may be self-defeating. These self-defeating coping strategies to keep a sense of self-worth include utilising failure-avoiding tactics. An example includes students choosing tasks or courses that ensure success, although these undertakings may not necessarily test the full capacities of the individual's capabilities. Another failure avoiding coping strategy involves procrastination whereby if the student is not successful, he / she can attribute the failure to lack of study time rather than poor skills, thus still maintaining sense of self-worth (Weiner, Freedheim, Reynolds, Schinka, & Miller, 2003).

Consequently, what is evident from within the literature of test anxiety and the accounts of the various constellations that induce this emotion, is that there is at present no single interpretive theory that can account for the complexities that lead to test anxiety. It seems likely that this reflects the multiple underlying causes of test anxiety.

Abdollahi & Abu Talib (2015) have provided an illuminating addition to the above cited models. In their study, they define test anxiety as 'an individual's tendency to react with expansive distress, invasive thoughts, mental disorganisation, and physiological arousal when exposed to evaluative situations' (Abdollahi & Abu Talib, 2015, p.498). Through utilising Carver & Scheier's (1984) and Eum & Rice's (2011) self-regulation model, Abdollahi and Abu Talib have aimed to explore the relationship between perfectionism and test anxiety by looking at ways in which emotional intelligence can be a moderator for this. Abdollahi and Abu Talib believe that individuals with high levels of emotional intelligence can perceive, understand, control and manage emotions in self and others and they can employ appropriate emotions in adaptive ways compared to those with low emotional intelligence (Mayer & Salovey, 1993). Therefore, as argued by Eum & Rice (2011), adaptive perfectionists who have high standards of performance plus low levels of

negative self-evaluation, do either not experience, or experience low levels of anxiety; whereas maladaptive perfectionists who have high performance expectations and high levels of self-blame when failing to meet standards, may experience higher levels of anxiety (Eum & Rice, 2011). Additionally, decreased emotional intelligence associated with maladaptive perfectionism (setting very high standards and being critical of self if these are not met) may reflect lack of interpersonal skills and mood regulation strategies that may lead to depression, anxiety and stress (Sherry, MacKinnon, Fossum, Antony, Stewart, & Sherry, 2013; Smith, Saklofske, & Nordstokke, 2014).

Consequently, Abdollahi and Abu Talib hypothesised that the ability to understand, control and manage emotions and the coping methods individuals use in response to negative emotions are more likely to increase or decrease the experience of test anxiety. To test out this hypothesis, they used a sample of 520 high school students aged from 15 to 21 and asked them to complete scales measuring perfectionism, test anxiety, and emotional intelligence. The results of the study were consistent with previous studies conducted by Eun & Rice (2011) and Schaprio & White (2014) and showed that higher levels of emotional intelligence and adaptive perfectionism negatively predicted test anxiety among Iranian high school students, whereas maladaptive perfectionism positively predicted test anxiety.

Regarding these models outlined above, it is widely known in the field of adulthood dyslexia that the self-esteem levels of many adult students with a diagnosis of dyslexia is fragile and damaged due to early negative school experiences and repeated failures (Casey, Levy, Brown, & Brooks-Gunn, 1992; McNulty, 2003). This point is articulated by Mortimore (2008) by suggesting that 'many teenagers with dyslexia may have endured a lifetime of being told – or simply telling themselves – that they are hopeless' (Mortimore, 2008, p.77). Arguably this

places adults with dyslexia at greater risk of experiencing test anxiety and of using avoidant coping strategies to preserve self-worth.

### **3.4 Theories of Performance Anxiety**

Performance anxiety has been conceptualised as a type of social anxiety whereby the person has a fear of negative evaluation (Nicholson, Cody & Beck, 2015). There has to date been limited research work conducted on performance anxiety. An interesting study looking specifically at music performance anxiety for musicians and ways in which this interacts with components of social anxiety is Nicholson, et al's. (2015) study. Using the Performance Anxiety Questionnaire (Cox & Kenardy, 1993) and the Social Interaction Anxiety Scale (SIAS) and Social Phobia Scale (SPS) which are companion-scales designed to measure two core components of social anxiety (Mattick & Clarke, 1998), Nicholson et al. (2015) assessed levels of music performance anxiety in a sample of 130 professional musicians in three different musical performance settings (solo, group, and practice). Results showed that music performance anxiety (MPA) varies by performance setting, with the most anxiety reported during solo performances (Nicholson, et al. 2015). Furthermore, findings also provided partial support for the hypothesis that the higher measures of social anxiety in participants predicted performance anxiety. However, higher levels of social interaction anxiety and social performance anxiety proved to not be predictors of music performance anxiety. Instead, predictors of performance anxiety in specifically solo settings included fear of negative evaluation. Consequently, these results highlight the fear of negative evaluation as a core component of performance anxiety.

The fear of negative evaluation is a concept pervasive amongst students with dyslexia (Chinn, 2009) particularly when involving tasks such as reading out loud or writing in front of people (please refer to the *Findings Chapter* for more detail). Therefore, it is important to evaluate to what extent fear of negative evaluation induces feelings of anxiety and stress amongst students with dyslexia when

performing academic tasks that involve writing in front of others and reading aloud. Additionally, social anxiety disorder fears involve three main contexts: formal performance (e.g. speaking in public or musical performance), social interaction (e.g. conversing with people at a social event) and being observed while performing routine activities (e.g. writing a cheque with others present) (Bogels, Alden, Beidel, Clark, Pine, Stein, Voncken, 2010). The implications of this for the dyslexic adult, leading to embarrassment due to the difficulty of writing the cheque whilst simultaneously being watched by others.

### **3.5 Theories of Social Anxiety**

According to Trower, Bryant, & Argyle (1978) theoretical models of social anxiety have their origins in the behaviourist paradigm. For example, Trower et al. (1978) propose that people pursue social goals according to rules and monitor their performance in the light of feedback from the social environment. Thus, behaviour such as avoidance or withdrawal is caused by, and is a response to, external / environmental stimuli. With regards to this view then, when applied to an academic environment, it can be argued that adult students with dyslexia are striving to pursue and fulfil the academic and social expectations traditionally administered by the norms and rules laid down by the University. Furthermore, during periods of evaluation, such as assessments or presentations and exams, both oral and written when feedback from the University is regarded as the most important aspect, how and in what ways does this interact with the student's emotions? How does it make that person regard and perceive their own academic performance?

In the self-presentation model of social anxiety (Schlenker & Leary, 1982) anxiety arises when people are motivated to make a good impression on an audience, but doubt they will do so, and thus perceive or imagine unsatisfactory evaluative reactions from subjectively important audiences (Schlenker & Leary, 1982). As adult students with dyslexia have often encountered negative school experiences

which have affected self-esteem and damaged academic confidence, the self-presentation model may be a way of understanding some participants views on academic tasks, such as presentations.

Topham, Moller, & Davis (2016) have made a valuable contribution to the evaluation of social anxiety and the ways in which this interacts with and affects academic performance in their study. They argue that social anxiety in learning is prevalent amongst young adult students and has a marked effect on their engagement with higher education. It receives little attention from academic or support services and there is a presumption that students will manage their own anxieties (Topham et al. 2016). As Topham *et al.*, have correctly identified, at University interactive methods of learning are common and students are expected to interact with strangers, talk in groups and risk criticism of their work from peers and tutors. Some students, particularly some adult students with dyslexia, due to previous negative experiences, may find these methods uncomfortable and may perhaps cope through withdrawal and avoidance.

To understand the phenomenon of social anxiety and the ways in which it interacts with learning at University, Topham et al. (2016) aimed to identify any possible change processes in student social anxiety using thematic analysis of qualitative responses to an online survey obtained from 39-year two undergraduate students. The survey was used to tap into student experience of learning situations, such as lectures, seminars, and group presentations. The results implied that there were four-stages of progression for students in terms of their orientation to coping with social anxiety. The four stages were labelled: Stasis – participants' experiences of social anxiety had remained the same or intensified since attending University and their method of coping was largely through avoidance; Dialogue – participants' anxiety was still intense, but they had begun to make changes, or had awareness of what changes they needed to make; Engagement - students in this group were more engaged with their learning and had made efforts to manage

their anxiety by for example, focusing on trying to answer questions which they knew the answers to during seminar discussions. Finally, the Autonomy group involved participants whose personal and academic lives were much less affected by anxiety. They felt more confident about managing it. Autonomy participants identified four factors that contributed to a reduction in their social anxiety: increased social familiarity; experience of University; understanding triggers for anxiety; increased self-acceptance (Topham et al., 2016, p.134).

Topham, Moller and Davis's work here raises interesting issues for students' with dyslexia. For example, the autonomy group, the least affected by anxiety had identified that it was familiarity, experience, understanding anxiety triggers and increased self-acceptance that had reduced their social anxiety. Perhaps these factors have a bearing on the experiences of dyslexic university students in relation to their social anxiety. This study has also highlighted that there is a need for more work of this kind to be done on students with dyslexia to gauge an understanding of which of the four stages they are at in terms of their anxiety.

### **3.6 Theories of Coping**

This section will first discuss a dominant theoretical approach to understanding coping responses in dealing with stress and anxiety proposed by Folkman and Lazarus's transactional model of stress and coping (1985). Whilst Folkman and Lazarus's work is useful for helping us to comprehend coping on a generic level, I will argue that this framework has limitations for fully specifying the complex relationship between negative emotion and types of coping that are used in adult students with dyslexia, who are the focus of this study, and that Skinner and colleagues (Skinner, Edge, Altman, Sherwood, & Cooper, 2003) provide a more useful framework. Please refer to Table 3.1 below.

Folkman and Lazarus constructively proposed that coping can influence emotion and vice versa emotion can influence coping in a dynamic mutually reciprocal

relationship. For example, they suggest that 'the effects of coping on emotion have not been emphasised in theory, yet their importance in adaptational encounters seems to us to be equal to, if not greater than, the effects of emotion on coping' (Folkman & Lazarus, 1988, p.309). As a dyslexia support tutor, this is repeatedly evidenced when students become highly stressed due to finding it difficult to meet essay deadline dates. Once they have focused on applying time-management strategies to break up tasks into smaller steps, the stress and anxiety subsides, thus an example of coping and the effects that this can have on reducing the emotion of stress. Emotion for Folkman and Lazarus is defined as a complex organised psychophysiological reaction, consisting of three components which operate as a unit, rather than as separate responses. These components are: cognitive appraisals (the personal interpretation of a situation); action impulses (an act influenced by the interpretation of the situation, such as avoidance for an exam, etc.); patterned somatic reactions (communicating psychological distress) in the form of physical symptoms, such as trembling in situations viewed as fearful. In view of the concept of cognitive appraisal, which as defined above is the individual's interpretation of a situation, Folkman and Lazarus suggest that there are two forms of appraisal: primary and secondary. In primary appraisal of the situation, the person asks, 'what do I have at stake in this encounter?' The answer contributes to the types of emotion and intensity felt by the person. For example, if a student's self-esteem is at stake, perhaps due to encountering evaluative situations, then there is a potential for shame or anger, whereas if the person's physical well-being is at stake due to illness, then worry or fear is more likely. In secondary appraisal the concern of the person is 'what can I do? what are my options for coping? and 'how will the environment respond to my actions?' The answer influences the types of coping strategies that will be used to manage the demands of the encounter' (Folkman & Lazarus, 1988, p.310).

Coping therefore for Folkman and Lazarus is defined as consisting of both cognitive and behavioural efforts 'to manage specific external and / or internal demands that are appraised as taxing or exceeding the resources of the person' (Folkman & Lazarus, 1988, p.310). Folkman and Lazarus's conceptualisation of coping has two elements: firstly, problem-focused coping, which is the utilisation of cognitive strategies; and secondly, emotion-focused coping. These two forms of coping (cognitive and behavioural) are constantly changing as a function of continuous appraisals, how the individual interprets the situation, and reappraisals of the person- environment relationship, which is also always fluctuating. Folkman and Lazarus consequently focused their work on identifying and specifying the various forms of coping that alter the person-environment relationship, and hence accordingly can change the emotional response. Thus, according to Folkman and Lazarus there are three ways that the person-environment and negative emotional reaction is changed. The first is through using cognitive activity that influences the deployment of attention. This can be achieved either through diverting attention from the source of distress through using avoidant strategies, or through diverting attention to it by employing vigilant strategies. Avoidant strategies may include jogging; relaxation; vacations; hobbies; maladaptive techniques, such as not addressing the origin of the stressor; or through escape-avoidance, which for Folkman and Lazarus includes; escaping through wishful thinking; eating and drinking; smoking; using drugs and medications; or sleeping. Vigilant strategies include information search, which may involve talking to someone to find out more; and planful problem solving involving making a plan of action and following it; or finding solutions. The second pathway for Folkman and Lazarus is using cognitive activity that alters the subjective meaning or significance of the encounter for well-being. This is fulfilled through distancing, either not thinking about it; or use of humour. Or through the deployment of cognitive coping strategies, such as use of selective attention to diminish or make positive the stressor. This could include making positive comparisons, such as *at least I know*

*more this year than last year*; cognitive restructuring by reforming negative thinking; using comforting cognitions like reassurance; and positive reappraisal which may involve using the experience to re-evaluate and grow from it. The third and final way specified by Folkman and Lazarus is the utilisation of actions that alter the actual terms of the person-environment. This is established via the means of problem-focused coping which is using cognitive problem-solving through either confrontive coping involving standing one's ground and fighting, or using planful problem-solving, which may include making a plan of action and following it, or through coming up with different solutions to the problem.

What is of value from Folkman and Lazarus's work on the relationship of coping and emotion is that it provides a framework for understanding an individual's emotions through linking these emotions analytically back to the individual's cognitive appraisal of the situation that has influenced the emotion. Thus, as a dyslexia support tutor, this has implications for practice, as to reduce the anxiety or worry of students in relation to their studies, there needs to be analysis and discussion in terms of focusing on the individual student's personal interpretation (cognitive appraisal) of the situation that is causing the distress. Reasons for the distress need to be understood so that the tutor can work effectively with the student on utilising various productive problem-focused coping techniques to alter the distressing emotion felt by the student. Additionally, Folkman and Lazarus state that 'emotions constantly shift throughout this process according to the changing status of the person-environment relationship' (Folkman & Lazarus, 1988, p.315). This provides a useful lens through which to evaluate the data, for example, could it be the case that students at postgraduate level, who have discovered various forms of coping techniques, have fewer negative emotions associated with their academic work than dyslexic students at undergraduate level, due to the postgraduate students changed person-environment relationship? Additionally, Folkman and Lazarus provide a useful comprehensive

framework of coping strategies for evaluating differences between forms of coping techniques being employed by the more experienced students as compared to the less experienced undergraduate students.

However, although Folkman and Lazarus have provided a useful set of coping functions in their three-pathway framework which can enable an identification of the purpose that a coping technique may serve, their distinction of the higher order category of coping namely, problem versus emotion-focused coping is problematic as discussed next.

### **3.7 Critique of Problem-Focused Versus Emotion-Focused Coping**

Problem-focused and emotion-focused coping are not conceptually clear in Folkman and Lazarus's work. For example, although problem-focused cognitive strategies are specified by Folkman and Lazarus, such as in their third pathway of using cognitive problem solving either through confrontive coping, or planful problem solving, there is a lack of clarity as to what can be categorised under the higher order label of emotion-focused coping. There appears to be no agreement on what lower order techniques emotion-focused coping encompasses. Additionally, these two functions of coping, problem focused versus emotion focused are not mutually exclusive. For instance, most types of coping strategies serve both functions and could therefore fit into both categories. As in the example of applying time management strategies discussed above, this technique not only solves problems, but also helps to reduce stress, thus calming emotion.

Consequently, what may prove to be a more productive framework for understanding what a sample of dyslexic university students are doing in their interaction between anxiety and coping is Skinner et al.'s. (2003) conception of a theoretical composition for coping. What is progressive about Skinner et al.'s approach is that consistent with Lazarus's later (1996) work they recommend that researchers no longer use the rather limited problem versus emotion-focused

distinction as way of classifying coping. For example, in addition to the critique of the problem versus emotion focused categorisation, Skinner et al. (2003) also argue that a distinction should not be made between approach and avoidance techniques with avoidance always been deemed as maladaptive coping. They suggest instead that approach and avoidance are complementary coping processes and that over the course of dealing with taxing situations, people can and do cycle repeatedly between them. In fact, Skinner et al (2003) speculate that this process may be synergistic in that the emotional respite gained through avoidance may provide the energy and space needed for more effective subsequent approach responses. Furthermore, Skinner et al point out that currently disagreement exists about what qualifies as an approach versus an avoidance way of coping. For instance, they suggest that it is possible to argue that the coping response of support seeking and its variations, such as help seeking and advice seeking should be classified as avoidance-type coping strategies because they orient the individual away from the stressful event and towards other people. Skinner et al., also argue that emotional discharge, such as venting may be better classified as an approach strategy because the individual is oriented towards the stressor.

The problem is that approach responses typically only include constructive methods, whereas avoidance responses are based on negative reactions (Altshuler & Ruble, 1989; Causey & Dubow, 1992; Ebata & Moos, 1991). Skinner et al., (2003), therefore argue that this misclassification may explain why active and emotionally positive responses, such as seeking support may be categorised as approach, even though they are directed away from the stressor, and why negatively charged responses like venting or externalising have been classified as avoidance, even though their focus is towards the pressure. Accordingly, this highlights the problems with consistently using a coping system that exhaustively categorises approach and avoidance ways of coping and that orientation towards

the problem alone is not a sufficient dimension for capturing the topology of coping. For the reasons stipulated above, Skinner et al. (2003) argue that theoretically it is impossible to determine the adaptiveness or maladaptiveness of any way of coping and arguments about the right or wrong way to cope are pointless.

These critiques of theoretical frameworks for coping based on distinctions in terms of adaptiveness have highlighted current problems with developing a conceptual structure for coping. Moreover, Skinner et al. (2003) state that the critical problem for the field is the construction of a complete and coherent set of coping categories at an intermediate level that can organise innumerable situation-specific highly personal responses with respect to their function in mediating the effects of stress. Skinner et al. (2003) attempted to develop a theoretical framework for coping through the analysis of 100 previously used categorisations of coping, including Aldwin, Folkman, Shaefer, Coyne, & Lazarus, (1980); Aldwin & Revenson, (1987); Dunkel-Schetter, Feinstein, Taylor, & Falke, (1992); Folkman & Lazarus, (1980); Folkman & Lazarus (1985); Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, (1986); Parkes., (1984); Vitaliano, Russo, Carr, Maiuro, & Becker, (1985). Confirmatory factor analysis was then used to establish lower order categories of coping (ways of coping, or coping strategies – recognisable action types) and 13 potential core families of coping was identified. In their formulation Skinner et al., suggest that any higher order category of coping (families of coping in which lower order 'ways' of coping are nested) need to be functionally homogeneous to the extent that they can be defined so that all the lower order ways of coping listed under the higher order category, such as watching TV; seeing friends, etc., all have the same outcome. For instance, the lower order actions such as problem solving, strategizing, instrumental action, and planning all serve the same function of using a set of actions to bring about a desired outcome, and, as such Skinner et al., suggest these should be members of the same family and listed under one

higher order category. Based on this configuration, the 13 higher order categories of coping devised by Skinner et al. are as follows:

### **3.8 Higher Order Categories of Coping**

1. Problem Solving.
2. Seeking Support.
3. Escape Avoidance.
4. Distraction.
5. Cognitive Restructuring.
6. Rumination.
7. Helplessness.
8. Social Withdrawal.
9. Emotion Regulation.
10. Information Seeking.
11. Negotiation.
12. Opposition.
13. Delegation

The first set of families: problem solving; seeking support; escape avoidance; and distraction; is organised around challenges and threats to competence and so involves appraisals of opportunities for (or threats to) control. The second set including: cognitive restructuring; rumination; helplessness; and social withdrawal is organised around challenges and threats to relatedness and involves appraisals of the availability (or absence) of trusted others. Finally, the third set of coping families: emotion regulation; information seeking; negotiation; and opposition; is organised around challenges and threats to autonomy and so involves appraisals of opportunities for (and threats to) self-determined action. The 13<sup>th</sup> family, namely delegation was included in Skinner et al.'s. (2003) framework as an afterthought, as it had appeared in only one of the 100 analysed assessments of coping (Ayers, Sandler, & Twohey, 1998) and had been studied

only in children. I have however, included delegation here as part of the framework to apply to the dyslexic sample in the study, as previous research on adult dyslexia coping (Logan, 2009) found that dyslexic entrepreneurs consistently used delegation to succeed in their businesses. Therefore, it will be interesting to establish whether the same applies for a sample of dyslexic university students in relation to ways of coping with their academic tasks. Within the 3 categories that each contain the four families, Skinner et al., (2003) argue that these have been identified from their analysis of previous coping frameworks, based on firstly; distinguishing ways of coping that are triggered by appraisals of challenge versus threat, and secondly; distinguishing between ways of coping that target the self-versus the context. Skinner et al., (2003) claim that taken together the 13 families listed in the table below which shows all their lower order categories of coping, covers much of the range of ways of coping that have previously been studied so far.

Thus, this coping structure promises to provide a more productive framework than Folkman and Lazarus (1988) in enabling an analysis of coping techniques used by the sample in this study, as it is not based on the restrictive distinctions of problem versus emotion focused coping, and approach versus avoidance, but provides a more practicable evaluation of how adult dyslexic university students cope within an academic environment. Additionally, Skinner et al., (2003) argue that this new formulation of coping categories as based on confirmatory factor analyses (used to test whether measures of a construct are consistent with the researcher's understanding of the nature of that construct) attests to the empirical soundness of the framework.

*Table 3:1 - Skinner et al (2003) Theoretical Framework for Coping*

Problem Solving	Seeking Support:	Escape-Avoidance:	Distraction:	Cognitive Restructuring:	Rumination:	Helplessness:
Instrumental action.	Parents.	Cognitive avoidance.	Hobbies.	Focus on the positive.	Intrusive thoughts.	Giving up.
Strategizing.	Spouses.	Avoidant actions.	Exercise.	Positive thinking.	Negative thinking.	Passivity.
Problem solving.	Peers.	Denial.	Watching TV.	Optimism.	Catastrophising.	Confusion.
Planning.	Professionals.	Wishful thinking.	Seeing friends.	Minimisation of distress.	Anxiety amplification.	Cognitive interference.
Logical analysis.	God.		Reading.		Self-blame.	Exhaustion.
Effort.	Goals in going to people:				Fear.	Dejection.
Persistence.	Instrumental help.					Pessimism.
Determination.	Advice.					
	Comfort.					
	Contact.					

Social Withdrawal:	Emotion Regulation:	Information Seeking:	Negotiation:	Opposition:	Delegation:
Social isolation.	Self-encouragement.	Attempts to learn more about a stressful situation or condition.	Priority setting.	Projection.	Dependency.
Avoiding others.	Comforting.	Looking for strategies for intervention and remediation.	Proposing a compromise.	Reactance.	Maladaptive help seeking.
Concealment.	Emotional control.		Persuasion.	Anger.	Complaining.
Stoicism.	Relaxation.		Reducing demands.	Aggression.	Whining.
Emotional withdrawal.	Emotional expression.		Trade-offs.	Discharge.	Self-pity.
			Deal-making.	Venting.	
				Blaming of others.	

### 3.9 Conclusion

This chapter has discussed theoretical approaches to generalised anxiety and has evaluated the types of conceptualisations which may help with an understanding of the nature of anxiety in a sample of adult dyslexic university students. These

broad categories of anxiety have then been explored further to look more specifically at models of academic anxiety of relevance to dyslexic university student anxiety. Some of these models may help to explain the unique experiences with anxiety of dyslexic higher education students and may have a bearing on illuminating the nature of dyslexic adult student anxiety.

This chapter has also evaluated Folkman and Lazarus's transactional model of stress and coping (1985) and I have argued that this conceptualisation of coping has limitations due to being based on a restrictive distinction of problem versus emotion-focused coping and approach versus avoidance techniques. I have therefore proposed that Skinner et al.'s. (2003) formulation of 13 higher order categories of coping, provides a more fruitful framework for identifying coping responses typically used by the dyslexic university sample.

## ***Chapter 4: Methodology Chapter***

### **4.1 Introduction to research design as a mixed method two-stage study**

To best understand the experiences with anxiety and coping of the participants involved in the research, the study used a mixed method two-stage design. Stage one of the research involved using a modified quantitative survey that had been used in a previous study by Carroll & Illes (2006), as a method for confirmatory replication of the results of their study. Consequently, the survey was used for the purpose of determining the prevalence of anxiety for the dyslexic student with an increased sample size from that originally used by Carroll and Illes, and also to establish whether there is a difference between a dyslexic and non-dyslexic sample in terms of levels of anxiety across a variety of academic experiences and situations as had been identified in the Carroll and Illes study. Stage two used an exploratory approach to investigate more specifically the experiences of anxiety and coping for the adult dyslexic learner in higher education through using qualitative open-ended, semi-structured interviews undertaken by twenty University students with a diagnosis of dyslexia.

In the following sections: I outline in a little more detail each stage of the mixed method design; I justify why a mixed method two-stage design was required to effectively answer my hypothesis and research question; I discuss my epistemological position which underpins the hypothesis, research question and methods selected; I consequently re-state the hypothesis and research question; and I provide an outline of the methodology used to highlight the appropriateness for investigating the hypothesis and for answering the research question; I explain the sampling strategy adopted; I detail the data collection method and procedures for analysis utilised at both stages; finally, I outline the ethical considerations involved in the study, including my own position as an insider researcher.

## **4.2 Stage One – Confirmatory Replication with Quantitative Survey**

Stage one of the research, as mentioned above was an adapted confirmatory replication of a previous study by Carroll & Illes (2006). The Carroll and Illes study aimed to identify whether undergraduates registered as dyslexic at university were vulnerable to high levels of anxiety in comparison to their non-dyslexic peers. To investigate this, they used a sample of sixteen students with specific learning difficulties compared with sixteen students with no specific learning difficulties and they asked both the dyslexic and comparison groups to complete a 90-item questionnaire looking at trait anxiety levels (stable tendency to experience negative emotions such as anxiety across many situations). The questionnaire measured three separable areas of anxiety – academic anxiety, social anxiety and appearance anxiety and 30-items were allocated for each of the three areas of anxiety. Carroll and Illes's results showed that the dyslexic sample had higher levels of state anxiety and elevated levels of trait – academic and social anxiety, but there was no difference between the two groups on appearance anxiety.

As Carroll and Illes's sample of dyslexic higher education students was small, it would benefit from replication as it was important to confirm whether there is indeed a greater prevalence of trait anxiety in students with dyslexia than in those without dyslexia before embarking on the second, more in-depth study. For the first stage of this two-stage research project, I chose to utilise the questionnaire that Carroll and Illes had previously used to measure the trait anxiety levels in a large sample of 102 dyslexic higher education students compared to 72 non-dyslexic students. The questionnaire used by Carroll & Illes (2006) was modified by deleting the items used to measure appearance anxiety, as I was not concerned with investigating this area of anxiety.

In addition, as a main aim of the research involved exploring the experiences of not only anxiety, but also of coping with negative emotion for the adult dyslexic

learner in higher education with exploratory qualitative interviews during stage two of the project, I could not really proceed into this investigation until I had determined the exact prevalence of anxiety for the dyslexic student and had identified whether there is in fact a difference between a dyslexic and non-dyslexic sample with regards to anxiety levels.

#### **4.3 Stage Two – Exploratory Qualitative Interviews**

Exploratory research, as Robson (2002) suggests is used for finding 'out what is happening, particularly in little understood situations' (Robson, 2002, p.59). It is also used 'to seek new insights; to ask questions; and 'to assess phenomena in a new light' (Robson, 2002, p.59). The purpose of this type of research is **not** to provide definitive and conclusive solutions to existing problems, but rather to determine the extent and the nature of the problem. This idea is expressed more conclusively by Stebbins (2001), with the statement 'it is more accurate to qualify exploration as primarily inductive and confirmation as primarily deductive. In other words, during an exploratory study, researchers do think deductively at times, although they do so largely within their emerging theoretical framework rather than within established theory and a set of hypotheses deduced from it' (Stebbins, 2001, p.7). Consequently, this type of research is being used to help to form a better understanding of the relationship between dyslexia and the phenomena of anxiety and coping. Furthermore, exploratory research is being used to induce from existing conceptual frameworks, (discussed in further detail in the Conceptual Framework Chapter) which specific types of academic anxiety are applicable?

Stebbins suggests that 'exploration is the preferred methodological approach 'when a group, process, activity, or situation has received little or no systematic empirical scrutiny, or has been largely examined using prediction and control, rather than flexibility and open-mindedness' (Stebbins, 2001, p.8). Adult dyslexia and the connection with negative emotional consequences, such as anxiety and

stress whilst at University and the types of activities used to cope with negative emotional consequences, has been relatively undocumented from the perspectives of dyslexic participants. Therefore, exploration using the orientations of flexibility in the form of the inductive interview technique provides the most suitable approach for investigating possible answers to the research questions.

#### **4.4 Justification for mixed method two-stage design**

Campbell & Fiske (1959) were regarded as the first researchers to use a mixed method approach. They referred to this method as 'multiple operationalism' when more than one method is used to ensure the findings are not the product of a specific method (e.g., qualitative or quantitative), but are indeed, the result of the underlying phenomenon, behaviour or attitude under investigation. Thus, in relation to this study the findings of the questionnaire become explored and validated further in a deeper level during the interviews, allowing for both breadth and depth. Consequently, the two-stage mixed method design enables not only responses to the questionnaire items to become legitimised during the interview method, the reasons behind the anxiety and ways of coping with the negative emotional consequences of studying with dyslexia are also fleshed out and elaborated upon.

A number of theorists (Creswell & Plano-Clark, 2007; Denscombe, 2008; Feilzer, 2010; Johnson & Onwuegbuzie, 2004; Tashakkor & Teddli, 2003) view the research paradigm that underpins a mixed method approach to be that of pragmatism, because with mixed methods, the main focus is on the research questions, rather than either the methods used or the worldview that underlies it. As discussed in the Introduction Chapter and the Rationale section, this study arose from work previously carried out for the Institution Focused Study and was derived and influenced from the unexpected findings of a survey used in the IFS report which showed that survey items associated with generalised anxiety and worry were ranked fairly highly by dyslexic participants (For further detail please

refer to the rational section). Consequently, my main purpose for conducting this research is to better understand this linkage between dyslexia and the emotional consequences of studying to implement this knowledge into my working practice and to develop professionally as a more effective dyslexia practitioner and support tutor. For that reason, I would claim to be a pragmatist and would assert that pragmatism underpins my research and is the basis for the choice of research methods selected.

## **4.5 Epistemology**

Epistemology is defined as the theory of knowledge. Epistemology in research refers to theories and debates regarding what we can know about the world (Gibson, 2017, p.55). Throughout the history of academics there has been trends of epistemology; from positivist which assumes that only evidence from a scientific method can be legitimate knowledge; to post-positivism – ‘theoretical positions which have taken on broad critiques of positivism but follow an avowedly scientific approach and favour quantitative methods’ (Robson, 2011, p.530); and finally, to constructivism – ‘the view that reality is socially constructed, i.e. that the phenomena of the social and cultural world and their meanings are created in human social interaction’ (Robson, p.533).

### **4.5.1 Epistemology – Stage One**

The positivist approach to quantitative data, is that this should be completely objective. However, I dispute this claim as although I have had no influence on the ways in which the questionnaire items are completed by participants (as this was done remotely and completed on a computer by the respondent), and no ability to manipulate the statistical calculations from which the findings are derived; I have however, still made a number of subjective judgements with regards to the subscales used to measure the variables of anxiety. For example, as discussed above, from the Carroll & Illes (2006) questionnaire, I selected the

subscales academic anxiety and social anxiety and made the decision not to use appearance anxiety. As an objective knowledge can never be truly attained, I would therefore view my position in stage one of the research to be post-positivist. As Reichardt & Rallis suggest 'post-positivism recognises the force of criticisms made of positivism and attempts to come to terms with them. For example, while positivists hold that the researcher and the researched person are independent of each other, there is an acceptance by post-positivists that the theories, hypotheses, background knowledge and values of the researcher can influence what is observed. However, there is still a commitment to objectivity, which is approached by recognising the possible effects of these likely biases (Reichardt & Rallis, 1994, p.8). Furthermore, another difficulty is that whilst the measure of internal consistency for the sub-scales used in the survey indicates that there is a high level of reliability, other challenges remain. For example, on different days, dependent on mood, it is always possible that participants would answer in another way. Accordingly, whilst acknowledgements to subjective decisions and difficulties with reliability in measuring participant behaviour is made with the questionnaire data, I would still therefore argue that my epistemological position with this stage of the research has been post-positivist. Whilst with the questionnaire, I have pursued objectivity, I still admit that evidence from the data will have imperfections and will be fallible.

#### **4.5.2 Epistemology – Stage Two**

My epistemological position in the research for stage two is informed by constructivism with the overriding purpose of pragmatism, as discussed in the justification of a mixed-method approach section above. Constructivism is the acknowledgement that 'reality is a product of human intelligence interacting with the experiences in the real world' (Elkind, 1988, p.334). Consequently, at the heart of this study my principal concern is with the ways in which individual participants with dyslexia generate meanings of their experiences with education

at university level. Therefore, the constructivist paradigm is appropriate for the nature of a study that aims to explore and uncover meaning from the data. Linking to my epistemological positioning as constructivist, the theoretical approach that underpins this position in terms of how I will view the data is through the lens of interpretivism.

Interpretivist approaches involve pinpointing the focus of analysis on the 'processes of human interpretation and how people make and give sense to their experiences' (Gibson, 2017, p.62). Through analysing the language used in the interviews and the ways that this constructs the participants' experiences of education, I would suggest that an interpretive paradigm is pertinent as this enables a deeper understanding of adult dyslexic students' perspectives on their experiences with anxiety and with coping at University.

However, unlike the questionnaire which had a more objectivist stance, as the participant was able to complete this with absolutely no knowledge with regards to the researcher, and therefore, the researcher and the researched person were largely independent of each other, with regards to obtaining the student's perspectives in the interviews, my presence as researcher during the process of interviewing could have influenced the nature of responses. This is discussed further in the insider researcher section below.

#### **4.6 Restatement of the Hypothesis and Research Question**

A hypothesis was made for Stage one and a more open and exploratory research question for Stage two, consistent with the differing aims and approaches adopted:

1. Adult dyslexic learners in higher education have a higher prevalence of academic and social anxiety than their non-dyslexic peers.

2. What are the emotional consequences of studying with dyslexia, and how do adults with a diagnosis of dyslexia cope both cognitively and emotionally within an academic context?

#### **4.7 Outline of the Methodology Used**

#### **4.8 Stage One – Quantitative Survey**

A strength of utilising quantitative research in the form of an online survey as the first stage of this research project, is that as a method, the survey is able to produce reliable and quantifiable data that can reach a large number of dyslexic and non-dyslexic respondents and therefore supports generalisability. Owen (2017) suggests that 'surveys have an objectivist approach, which assumes there are real social phenomena, and that surveys are able to try to capture some of what they are' (Owen, 2017, p.124). The social phenomena that this survey is measuring, that of academic and social anxiety, is subjective in nature as it is based on how the respondents' rate themselves in social and academic situations, but the position taken is that this nonetheless represents a real social phenomenon about which there is a shared understanding.

Creswell & Plano-Clark (2007) point out that quantitative research is 'weak in understanding the context or setting in which people talk... The voices of participants are not directly heard in quantitative research' (Creswell & Plano-Clark, 2007). That way as a method used in stage one of this sequential research project, the survey allows for an initial understanding of areas for concern in terms of being able to identify specific survey items that show higher levels of anxiety for the dyslexic sample, which are then further explored and unpicked in stage two with the qualitative interviews. Thus, the interviews aim to ascertain and to probe answers as to why certain items from the survey may be more anxiety inducing for dyslexic participants than for the non-dyslexic students.

#### **4.8.1 Design**

The survey was designed to enable comparison between dyslexic and non-dyslexic HE students in the levels of academic and social anxiety they reported, replicating aspects of the study by Carroll & Illes (2016) but on a larger scale.

In difference to Carroll & Illes however, who used 90 questionnaire items to measure three separable areas of anxiety: - academic; social and; appearance, with 30 questionnaire items allocated to each area, I made the decision that I was only concerned with academic and social anxiety, so all items relating to appearance anxiety were excluded.

Once decisions had been made on specific items to include, i.e. all items to measure both academic and social anxiety, which included 60 items altogether, piloting of the draft survey was conducted to check the clarification of the wording used for each item and to get an idea of the time it would take participants to complete the survey. This led to no revisions being required as the two participants that completed the draft of the survey stated that the wording of the items was clear, and the time taken to complete the survey was no more than 15 minutes.

Background questions were also added to the survey, which included, asking if participants had previously received support from the Independent Dyslexia Consultants; asking if they had a diagnosis of dyslexia; what their age, gender and graduate status was; whether there were any other members of their family known to be dyslexic with the options of mother, father, brother or sister, child, grandparent, uncle or aunt, cousin, don't know but suspect parents maybe, don't know, or none of the above. A background question was also asked on when the participants were diagnosed with dyslexia with the options of not dyslexic, school, college / sixth form, university, work, or other (please refer to Appendix B on page 215 for the survey used, including the demographic questions). Demographic responses, however, are not presented in the Findings Chapter due to word count

restrictions although number of responses for each of the background questions have been included in Appendix B, page 215. Once the survey was finalised this was then uploaded onto Survey Monkey's basic free software and was emailed as a web link to participants.

#### **4.8.2 Participants**

The sampling frame to obtain the dyslexic sample for the survey was derived from going through a comprehensive list of students who had attended study support sessions at the Independent Dyslexia Consultancy between the period of 2011-2016 and who had a formal diagnosis of dyslexia. The survey once created and uploaded to the Survey Monkey software was then emailed as a link to either the potential participant's individual personal email address, or to their institution email address, dependent upon the contact information that I had on file for each student. However, as some of the targeted sample had already graduated from their studies and left their universities, several students who had only provided institution email addresses could not be reached.

Considering clients that my work institution supports are outsourced to the Independent Dyslexia Consultancy from Kings College London, I also emailed colleagues at the Kings Disability Service and staff there agreed to email the survey link to all students registered with their service with a diagnosis of dyslexia only. I specifically requested that only students with an official diagnosis of dyslexia should be forwarded the link. Additionally, further students diagnosed with dyslexia and the comparison sample, were recruited via a research advertisement, which provided information about the research project that the University College London Communications Manager had posted onto the UCL Twitter website. The advertisement had provided a link to the survey which students were able to click onto and to complete during their own time.

Consequently, the convenience sampling method was used to recruit both the dyslexic participants and the comparison group. Respondents were undertaking, or had undertaken, a range of degree and postgraduate degree courses. None of the comparison group reported any specific learning difficulties. The table below shows the number of people who completed the survey together with the number of respondents from each gender and age category. Additionally, 24 people had opened the link to the survey, but had not fully completed the survey and consequently, these had to be nullified from the data.

*Table 4:1 - Number of Participants both Dyslexic and Non-Dyslexic who Completed the Survey*

	Dyslexic	Non-Dyslexic	Total
Number of people who completed the survey	102	72	174
Number of females	75	57	132
Number of males	26	15	41
Number aged between 18-24	49	48	97
Number aged between 25-34	43	13	56
Number aged between 35-44	4	5	9
Number aged between 45-54	6	3	9
Number aged between 55-64	0	2	2
Number aged over 65+	0	1	1
Number of people who had opened the survey, but had not fully completed it			24

### 4.8.3 Measures

As discussed above, general trait anxiety was measured using an adaptation of the questionnaire previously used in the Carroll & Iles (2006) study. Items in the Carroll & Iles (2006) questionnaire had been based on two established and copyright-free questionnaires: The Institute of Personality and Ability Testing (IPAT) self-analysis form (Cattell, 1957). This questionnaire consisted of 40 items divided into five subscales based on the author's extensive studies of the factorial structure of personality. The overall measure of anxiety shows good levels of internal consistency (Cronbach's alpha = .81, Bendig, 1966). Evidence of the scales' validity are limited (Bendig, 1966) but it is reported in Psychological Test Reviews (1957) 'to have high correlations with an objective test factor identified with anxiety'. The second questionnaire that the Carroll and Iles questionnaire was based on was the Screen for Child Anxiety-Related Emotional Disorders (SCARED), Birmaher, Khetarpal, Brent, Cully, Balach, Kaufman, and McKenzie, 1997). This was a 38-item questionnaire to screen children for anxiety disorders. The authors of the SCARED initially administered this as an 85-item questionnaire to 341 outpatient children and adolescents and 300 parents. Utilising item analysis and factor analysis, the original scale was reduced to 38 items. A subsample of children (n = 88) and parents (n = 86) were retested an average of 5 weeks after the initial screening. The SCARED demonstrated good internal consistency (= .74 to .93) test-retest reliability (intraclass correlation coefficients = .70 to .90), discriminative validity (both between anxiety and other disorders and within anxiety disorders), and moderate parent-child agreement (r = .20 to .47, p < .001, all correlations). Carroll and Iles adapted these questionnaires and created items to measure general trait anxiety as existing questionnaires did not concentrate on the three separable areas of anxiety that they wished to investigate. Carroll and Iles's finalised questionnaire was measured as having an overall reliability of .878, while reliabilities for the individual subscales were as

follows: .903 for academic anxiety; .870 for social anxiety; and .892 for appearance anxiety (Carroll & Illes, 2006).

However, as my concern was specifically with academic and social anxiety, I took out all items relating to appearance anxiety. This left a questionnaire comprised of 60 items with 30 questions each allocated to the two areas of anxiety – academic and social. Anxiety was assessed to determine whether students with dyslexia are specifically more anxious than students without dyslexia with regards to both academic and social situations. Overall, reliability for the anxiety scale was .939, while reliabilities for the individual subscales were as follows: .917 for academic anxiety; and .912 for social anxiety.

Each item on the questionnaire gave participants three options: *very like me*; *partly true*; and *not like me*, which were scored on a scale of 1-3, with 3 representing the highest levels of anxiety and 1 the lowest level. The questionnaire is shown in Appendix B

#### **4.8.4 Procedures**

1. The questionnaire was uploaded onto Survey Monkey.
2. The survey was then piloted by two dyslexic participants who at the time were attending the Independent Dyslexic Consultancy.
3. After piloting and review of whether there were any changes to make, the survey was emailed as a link with an attached information sheet outlining the research project to potential participants who had attended study support sessions at my work place institution between the years of 2011-2016.
4. The survey was also emailed as a link with an attached information sheet to the King's College Disability Service who forwarded it onto students registered with their service as students with a diagnosis of dyslexia.

5. The comparison sample was then obtained through the survey and information sheet being posted as a link onto the UCL Twitter website.
6. Once a large sample of responses were received, the data was transferred to an Excel spreadsheet and was then uploaded into SPSS software for analysis.

#### **4.9 Ethical Issues**

Once the proposal for the study was accepted an ethics application form for the research was submitted to the UCL Institute of Education research ethics committee and ethical approval was granted. Ethical issues that arose in the research included: firstly, the research was conducted with potentially vulnerable participants. Therefore, all stages of research were conducted with an ethic of respect for the participants involved. Additionally, as a dyslexia support tutor, I have been subject to a Disclosure and Barring Service check, dated 2011 with Disclosure Number: 001319640930. Secondly, I obtained informed consent from all participants that took part in the research. For this, I used the information sheet (please refer to Appendix C) which was sent as an email attachment to all potential participants to ensure that they were fully informed with regards to why the research project was being undertaken; what it would involve if they decided to complete the survey; and how the results of the project would be used. It was also made clear that participants had the rights to withdraw from the research at any time. Thirdly, in relation to data storage and data protection, I complied with the legal requirements in relation to the storage and use of personal data as set down by the Data Protection Act (1998) and any subsequent similar acts. The data was therefore stored on my hard drive in my own home. The hard drive was encrypted, and password protected. I also ensured that I was using confidentiality and anonymity to protect the participants' identity. Fourthly, in relation to dissemination and use of the findings of the research, the findings have not been falsified, sensationalised or distorted in any way. Participants will also have access

to the report before dissemination to ensure that they are comfortable with the documentation of information. Finally, in terms of handling sensitive topics, it was ensured that all the questions / items on the survey had been worded sensitively.

#### **4.10 The Theoretical Framework and How this was Used for Data Analysis**

The various conceptualisations of academic anxiety discussed in the Conceptual Framework chapter are applied to the findings of the quantitative study in the Discussion chapter. Models of relevance to dyslexic university student anxiety are therefore examined to help with developing an understanding of anxiety that is specific to adult dyslexic university students.

#### **4.11 Stage Two – Qualitative Interviews**

The value of conducting qualitative interviews as a secondary stage of data collection to explore the survey data further, is that interviews have the potential to generate rich descriptions of the participants' thought processes. Furthermore, as the focus is on reasons why a phenomenon has occurred, for example, from the evidence of the survey data, why do dyslexic students experience higher levels of academic anxiety than non-dyslexic students? the qualitative interview method provides a more detailed account of the phenomenon of anxiety and coping, than could be established from the survey data.

On the other hand, the interview method is not without its weaknesses as Gibson pointed out when stating in interviews 'we are dealing with people, and people have the peculiar habit of changing (their mind, their circumstances, their perspectives)' (Gibson, 2016, p.56). Consequently, although the interview may well be relying on a person to accurately and honestly recall details about their lives which may fluctuate, the interview still, however, enables the experiences of the dyslexic university student in relation to their emotional responses to studying, and their ways of coping with this to be heard. Additionally, a key objective with

the interview method was to identify themes and emergent issues unfolding from the data, specifically in connection to the emotions of studying and coping techniques used, which is the reason for having conducted twenty interviews in firstly, a deductive, followed by secondly, an inductive process. Thus, this specific focus on emotion words used by participants in response to study tasks at university and the description of what they do to cope both cognitively and emotionally is the rationale for selecting the qualitative, open-ended, semi-structured interview as my primary method for the second stage of the study.

#### **4.11.1 Design**

The twenty interviews were conducted in a staged nature, going from an initial deductive and working towards a more inductive approach. For example, as a starting point, the first five individual interviews, utilised a modified version of the questionnaire used in the IFS study combined with elements from the Study Skills Checklist to create a structured interview guide (please refer to Appendix A for a copy of the questionnaire used for the IFS study; Appendix D for a copy of the Study Skills Checklist and Appendix E for the first interview guide created from these two documents). The study skills checklist is used during my working practice with new dyslexic students during introductory sessions for firstly, establishing a rapport with the student on their academic work, and secondly, to identify areas of academic weakness. Thus, this checklist provided a valuable template and framework which could be modified for gathering information on emotional responses to study tasks. Thus, for my first set of five interviews, this revised checklist was used as my information gathering tool on: emotional responses to each of the academic tasks listed; types of coping strategies used to tackle each task; and whether any strategies are being used to cope with the emotional response. The collection of data from the first set of five interviews therefore, although using a deductive initial approach through using a pre-existing study skills framework for gathering initial information, still however, provided a

useful first step for enabling a search for any patterns, similarities, and unexpected, unpredicted data to be identified from the first five individual transcripts. This initial more structured interview approach, then led to a more open method being adopted during the second stage of ten interviews (please refer to second interview guide in Appendix F) and finally, during the third stage with the ultimate five interviews, although a guide was still partially referred to (please refer to third interview guide in Appendix G) these interviews were conducted through utilising a much more inductive, flexible, free flowing interview method. This was to capture and explore any unanticipated data.

Sociologists Glaser & Strauss (1967) argued that rather than testing theory, theory should be built from inductively analysing a social phenomenon. In other words, as described by Merriam & Tisdell in (2015) an 'important characteristic of qualitative research is that the process is inductive, that is, researchers gather data to build concepts, hypotheses, or theories rather than deductively testing hypotheses as in positivist research. Qualitative researchers build toward theory from observations and intuitive understandings gleaned from being in the field. Bits and pieces of information from interviews, observations, or documents are combined and ordered into larger themes as the researcher works from the particular to the general' (Merriam & Tisdell, 2015, p. 17).

Consequently, the rationale for using a deductive to inductive three staged approach to interviewing was due to my focus being on both emergence of consistencies in themes observed between the individual sets of data; and a desire to search for any unexpected responses to questions. As such, a top-down whilst working towards a bottom-up approach was used, as this was the most appropriate method for generating an understanding of firstly, consistencies around the phenomenon of anxiety in its interaction with dyslexia and coping in the context of the academic environment, whilst secondly, this also enabled a probing and exploration of any unexpected issues discussed by participants during

the interview process through an open and flexible approach to allow for freedom of expression from participants.

#### **4.11.2 Participants**

The convenience sampling method was used to recruit the participants for the interviews by asking students when in attendance at their support sessions, or through emailing students who had recently been receiving support from my work place consultancy whether they would like to take part in the study.

Robson defines convenience sampling as 'choosing the nearest and most convenient persons to act as respondents' (Robson, 2011, p.275). As noted previously, admittedly, convenience sampling does have limitations for representativeness, and I would argue that participants who voluntarily choose to be involved in the research process may perhaps differ from those who decide not to take part. Therefore, it may be questionable as to the extent that the findings can be said to be generalizable to a larger population of university students with a diagnosis of dyslexia. However, as Robson argues 'appropriate uses of convenience sampling include getting a feel for the issues involved' (Robson, p.275), which I would argue, considering that the interviews were conducted through a deductive to inductive process, the use of the convenience sampling method to recruit the participants, did enable an understanding of not only consistent issues, but also revealed unexpected issues in the data.

Twenty participants, all University students with a formal diagnosis of dyslexia who were undertaking, or had recently attended, one-to-one study support sessions within my work place institution therefore agreed to be interviewed. The justification for selecting a relatively large sample of twenty interviewees for the research was due to the twofold aim of wanting to, firstly; have a large enough sample to identify consistent themes emerging in the responses to be able to drill down further in the second round of interviews, and secondly; to be able to do

more open interviews in the third round and to look for any irregularities in the data. Accordingly, five males and fifteen females undertook qualitative interviews arranged at a suitable and convenient time for each participant to attend which were conducted at my work place office (please see Table below for details of the participants). The participants will be referred to by pseudonym only for the purposes of confidentiality.

*Table 4:2 - Interview Participants*

<b>Name</b>	<b>Gender</b>	<b>Age</b>	<b>University</b>	<b>Course</b>
<b>Dean</b>	Male	30	Kings College, London	BSc Nursing
<b>Naomi</b>	Female	25	Royal Veterinary College	BSc Medicine
<b>Sue</b>	Female	21	University of Brighton	BA Science
<b>Tina</b>	Female	21	Kings College, London	BSc Nursing
<b>Laura</b>	Female	25	Kings College, London	MSc Sociology
<b>Alison</b>	Female	27	Kings College, London	MSc Humanities
<b>Cara</b>	Female	33	Kings College, London	MA Arts
<b>Chloe</b>	Female	35	Kings College, London	MA Education
<b>Sam</b>	Female	52	University of East London	BA Education

<b>Debra</b>	Female	30	Kings College, London	MA Arts
<b>Lisa</b>	Female	19	Kings College, London	BSc Nursing
<b>Alan</b>	Male	30	Kings College, London	MSc Sciences
<b>Ada</b>	Female	29	Kings College, London	PhD Sciences
<b>Helen</b>	Female	22	Kings College, London	BSc Sciences
<b>Charlie</b>	Female	24	Kings College, London	MA Humanities
<b>Abu</b>	Male	28	Kings College, London	MA Arts
<b>Henry</b>	Male	23	Kings College, London	BA Philosophy
<b>Fiona</b>	Female	22	Kings College, London	BSc Sciences
<b>Cate</b>	Female	22	Kings College, London	BA English

## 4.12 The Interviews

### 4.12.1 The First Set of Five Individual One-to-One Interviews

As discussed above, for the first interviews, I created an interview guide adapted from the questionnaire I used for the IFS study (please refer to Appendix A)

combined with the Study Skills Checklist (please refer to checklist in Appendix D) that I use during my practice with new students to determine areas of academic weakness. The rationale for creating an interview guide based on the checklist, is that it is meaningful for participants as their expectation is that their reason for attending dyslexia support is due to requiring development on areas of cognitive weaknesses. Therefore, I decided to start earlier interviews by asking about academic tasks first to fulfil student expectations and to enable familiarity and rapport building, which then enabled me to approach asking about the emotional responses to study tasks. The interview guide was then amended twice to allow for a more inductive approach. The first interview guide was therefore developed to capture data on: emotional responses to academic tasks; strategies used to cope with the task; and strategies used to cope with the emotional response to the task.

Additionally, before this interview guide was created, research was undertaken into looking at interview questions that had been used in other similar published studies. I evaluated items that had been used in a 33-item emotional intelligence scale in the study by Schutte, Malouff, Hall, Haggerty, Cooper, Golden, Dornheim, (1998). For instance, item-22 on the Schutte et al., (1998) scale 'I easily recognise my emotions as I experience them', influenced me to create the question on the first interview guide: 'do you, or do you not, have an emotional response to....?' followed by each of the study tasks I investigated. That is because I wanted to delve into the participants' recognition or understanding of their emotions in direct relation to the experience of having to conduct the various study tasks. This then led to my prompt question of 'do you know why you feel that way?', to examine whether a student felt a certain way about a study task due to cognitive difficulties, or other elements, associated with the task. Furthermore, item number 31 on the Schutte et al., (1998) scale - 'I use good moods to help myself keep trying in the face of obstacles' informed my question on the first interview guide

'do you have any strategies for coping with the emotional response?', as I wanted to find out whether students' were actually using any strategies, such as good moods, etc., indicated by the item above to help with overcoming any negative emotional reactions presented by the academic tasks.

I was also informed by survey questions used in the Topham, Moller and Davis (2016) study. Although Topham et al., (2016) had focused specifically on social anxiety, the interview schedule for their study was still useful for shaping one of the final questions on the first interview guide used in this study. Topham et al's (2016) final question 'what do you feel could have been done to help you to reduce your social anxiety in learning situations?' was reworded to 'what kinds of techniques could be taught during your support sessions that would help you personally to cope more effectively with dealing with anxiety at university?'. This, I considered as an important additional closing question to obtain from the student perspective what they thought could help them to cope more productively with anxiety at university. This is because student responses to this question, if feasible, can be directly implemented into my practice. The first more structured interview guide was used during individual interviews with the first five participants to generate enough data to be able to identify any consistent themes.

During these first five interviews, I stuck to a prescriptive list of study tasks and only fleetingly asked at the end of the interview whether there were other tasks / experiences encountered at university that raised emotions for participants. The justification for adhering to a prescriptive list of study tasks, is that as a dyslexia study skills practitioner, I am interested to establish the types of academic tasks that prove to be more problematic in terms of inducing unfavourable emotions for dyslexic students. Questions were therefore structured around targeting the retrieval of data on whether individual participants had any emotional response in relation to a list of academic situations / tasks normally required by university

courses, such as reading tasks, exams, presentations, seminar discussions, writing essays, etc.

#### **4.12.2 The Second Set of Ten Individual One-to-One Interviews**

The second interview guide (please refer to Appendix F), had the aim to be more flexible and to capture not only consistencies, but also unexpected issues. This was still based on individual study tasks, yet asked more open questions, such as: 'how do you feel about reading tasks, etc?' to obtain a more instinctive response of positive and negative reactions. This was in contrast to the first guide which used the more formal question: 'do you, or do you not, have an emotional response to reading tasks, etc?' Additionally, because it had become clear from analysis of the first five interview transcripts that reasons for negative emotions connected to specific study tasks were based more on unpleasant childhood experiences, such as feeling embarrassed at school when reading aloud, rather than on current cognitive difficulties with the task, I focused more on delving into reasons for a particular emotion by asking with prompt questions: 'do you know why you feel that way?' and also asking 'can you give any particular examples?' to enable the participants to discuss any negative academic experiences that had led to the emotion.

#### **4.12.3 The Third Set of Five Individual One-to-One Interviews**

As the first stage of five and second stage of ten individual interviews had used a prescriptive list of study tasks, for the third stage of the final five interviews, I wanted to use a more inductive, flexible interview guide, which was only partially referred to during the interviews. For the guide (please refer to Appendix G) although I had tasks listed for my own benefit, I did not go through these in a chronological order with participants, but instead asked each participant to randomly pick any of the tasks. Once the task was selected the only two questions I asked were: what emotion the participant instinctively felt about the task, and

their reason for that emotion. This enabled an identification of tasks particularly problematic. I had no prompt questions on this interview guide, as I wanted the interviews to be unstructured and to be more of a spontaneous open discussion, whereby the information divulged from participants was followed up with questions developed during the interview, rather than by pre-existing questions. Additionally, as I had no set structure for the final five interviews and no expectations as to how the interviews would unfold, I did have some backup questions to ask, with the plan of either using or not using them, dependent on how the interview developed. For example, as I had asked, only if time had allowed, at the end of the first and second stage of interviews whether there were other tasks or experiences at university that raised particular emotions for participants, I used this third stage, to ask this question. Furthermore, from analysis of the transcripts, it became apparent that participants had a lot of self-blame, anger and frustration targeted towards themselves if they took longer than expected to do a task, or found it challenging. Therefore, in the last five interviews, I opted to explore expectations that participants set for themselves and how they felt if they struggled to meet their goals, by investigating these areas through additional questions.

#### **4.13 Method of Data Analysis**

Mason suggests that:

You need to have some idea of how you are going to go about analysing your data, so that you make sure that what you generate takes an appropriate form for this type of analysis (Mason, 2002, p.78).

The audio-recordings were transferred into twenty fully typed transcripts. This was done through the process of uploading the recordings of the interviews into *Voice Recorder* software. I then listened to dialogue from the interviews and using a head set and the *Dragon Naturally Speaking* software, repeated verbatim dialogue

into a *Word* Document. This procedure enabled initial reflection on words interview participants were using in response to the questions.

I then began analysing the data in the transcripts based on focusing on responses to the questions from my first structured interview guide (please refer to Appendix E). This was used in amalgamation with a predetermined coding framework I had created to look for things in the data (please refer to Appendix H). For each of the academic tasks, such as in the example of reading tasks provided below, the coding framework was applied, to provide hooks into analysing the data:

### **The Coding Framework Used for each Academic Task**

#### Reading Tasks

- Difficulties
- Unexpected
- Emotion
- Unexpected
- Reason
- Unexpected
- Strategies
- Unexpected

Consequently, although the coding framework enforced a deductive approach, I also combined the deductive with the inductive by actively looking for unexpecteds in the data, which is the rationale for having 'unexpected' listed in the framework under each of the elements I was looking for. I then checked for similarities of responses between the various individual transcripts, whilst also making a note of anything unpredicted.

#### **4.13.1 Coding**

I researched for literature that would help to illuminate the stages of what is involved in undertaking effective thematic coding. The papers I utilised to enable me to approach the coding task in a systematic and sequential manner included: Braun & Clarke (2006); Gale, Heath, Cameron, Rashid & Redwood (2013); and Ryan & Bernard (2003). Ryan and Bernard suggest that analysing text in the form of transcripts involves several tasks: '(1) discovering themes and subthemes, (2) winnowing themes to a manageable few (i.e. deciding which themes are important in any project), (3) building hierarchies of themes or code books, and (4) linking themes to theoretical models' (Ryan & Bernard, 2003, p.85).

The process I used for the coding stage is; once full transcripts (please refer to Appendix I for a sample of transcripts) and segments of text from transcripts had been categorised under the headings in the predetermined coding framework, I then began to further manually code these as an additional layer of analysis. Coding is the label, or keyword, that I attached to a phrase or segment of text I was analysing in the transcripts. This was done by pinpointing sections of text of importance in which I would then write an additional code or word next to the highlighted text. (please refer to Appendix J for an example of a sample of manually coded transcripts that had been categorised under the predetermined code of Emotion for Reading Tasks, as in the example above). Consequently, the predetermined framework above, enabled an identification of relevant segments and a categorising of responses in the transcripts, which was then coded and broken down further.

#### **4.13.2 Categories**

Once segments of text from all twenty transcripts had been coded, I began to think of types of categories the codes could be grouped into. For instance, data in response to the interview question 'how does dyslexia affect you?' had generated

examples from participants that I had coded as 'embarrassment', or 'spelling', etc., On second examination and through inference, I deduced that there were a series of codes that had been assigned to segments of text describing negative effects in situations where students were being evaluated; situations where they spoke about feelings of frustration and self-doubt; and learning situations. I therefore began to group together segments of text from various transcripts under categories: evaluation; emotion; and learning. This was done through using electronic coding using NVivo 10 software. Electronic coding was mainly used to organise the manual coded data, so that different sections of transcripts coded the same could be categorised together within one named Node for ease of establishing whether the sections were indeed the same theme, or had other additional themes emanating from the dialogue used. (please refer to Appendix K for an example of an electronically coded transcript). Once I could see the different sections of text categorised together under the same Node, I analysed the various segments of text – the category – to identify the element of consistency running through it. For example, I deduced that all segments of text categorised as evaluation could be themed under social effects of dyslexia, as all examples of text in this category were related to negative social situations. Sections of text grouped under the category emotion, were themed as emotional affects, and segments of text categorised as learning were themed as cognitive affects.

Additionally, examples of strategies discussed by participants that had been coded as either cognitive or emotional were grouped into categories under the type of activity the student was using as their strategy. For instance, participants who spoke of using the highlighting of text as a cognitive reading strategy became grouped into the category of visual techniques, whereas Yoga as an emotional strategy became grouped into the category of exercise.

### 4.13.3 Identification of Themes

The *key areas* under analysis and specifically focused on during the identification of *themes* involved looking for themes to describe the following: effects of dyslexia; *emotion words* used in response to specific academic tasks; reasons behind the negative emotions; the types of academic tasks that generated the negative emotions; and vice versa, the academic tasks that incited positive emotion; types of coping to overcome cognitive weaknesses; and types of emotional coping. This is because data on these areas would enable me to establish how the student felt about their dyslexia. It would also help me to identify types of study tasks that are particularly anxiety inducing for the student and would help me to understand other emotion connected to study tasks. Additionally, looking for themes on reasons behind the negative emotion would help me to understand where the negative emotion derives from. Whilst looking for themes on coping would help me to identify what students are doing to help themselves cognitively and what they are doing to help to deal with negative emotions. This would then enable me to identify any gaps in their coping.

To identify the themes, if the student said they were highlighting text to help with reading, as in the example above, this was categorised as visual, and I themed as a multisensory technique, if it was used in combination with other sensory methods, such as verbalisation, or listening to the text being read aloud. If highlighting text was used alone, it was themed as doing 'practical' things. For a list of the cognitive strategies used by the students for each study task and how these were grouped under themes, please refer to Appendix L. To theme the emotional coping strategies, this was done using the same method. For example, Yoga, grouped into the category of exercise, was themed as *exercise and healthy things*.

On delving into reasons behind negative emotions, a series of sections of transcripts had been labelled with coding words, such as 'slow' 'taking a lot longer'

'*spending hours*' '*run out of time*'. These examples of text were categorised together in NVivo under the Node '*slow*' and on analysis of the various sections of text in that category generated the theme *time*. Whereas transcripts allocated coding words 'don't remember' 'can't recall' which was a pattern across the data sets and categorised in NVivo under the Node *memory* indicated the theme *retention and retrieval difficulties* (please refer to the Findings Chapter for a full list of themes derived from the coding and categorising of the data).

Additionally, as the heart of the thesis was to focus on emotion associated with dyslexia, I discovered that throughout the transcripts various emotion words had been used in response to questions about how students felt in relation to academic tasks. This enabled a word frequency score to be undertaken through using the Find function in Word (please refer to Table 5:2 in the Findings Chapter showing frequency scores for negative emotion and positive emotion words). Once this had been conducted, I was able to identify academic tasks associated with more negative words and tasks more frequently connected with positive words.

#### **4.14 The Theoretical Framework and How this was Used for Data Analysis**

As discussed above under the headings Design and First Set of Five One-to-one Interviews, I analysed the data based on the predetermined coding framework derived from the structured questions used in my first interview guide (please refer to Appendix E). This enabled the analysis of data for individual study tasks to be achieved. For example, students had provided data for emotions felt in relation to a list of academic tasks, such as reading, exams, essays, etc., and had also provided information on coping strategies used. I originally planned to analyse the data on coping through applying Folkman and Lazarus's (1984) categories of coping. However, after deeper investigation of Folkman and Lazarus's conceptualisation of coping, I decided that it would have limitations on being applied to my data. This is because by applying a categorised framework to

my coping data, I would-be pigeon-holing examples of coping that are only discussed by Folkman and Lazarus, at the danger of overlooking coping methods used by dyslexic students. Additionally, I disagree with Folkman and Lazarus's distinctions of problem versus emotion-focused coping and approach versus avoidance techniques, which is discussed in more detail in the Theoretical Framework Chapter. Consequently, once I had done my own analysis of the coping data by using the method described above, i.e. manually coding, then categorising in NVivo under Nodes, then theming, I discovered Skinner et al.'s, (2003) formulation of 13 higher order categories of coping, based on their analysis of 100 previously used assessments of coping. This I considered as providing a more fruitful framework for identifying coping responses than the Folkman and Lazarus (1984) conceptualisation. I therefore decided to use this framework to provide an interpretation of coping used by the dyslexic sample in this study, which is presented in the Discussion Chapter.

#### **4.15 Procedures**

An interview guide adapted from a combination of the questionnaire used for the IFS study and the *study skills checklist* used during my working practice was created.

1. This was piloted with a dyslexic participant who was at the time attending support sessions at my work place institution.
2. Revisions were made to the guide by taking out leading questions and re-wording.
3. The individual interviews were organised by asking prospective participants through email contact, or via face-to-face, whether they would be willing to take part in the research by attending an interview at a convenient time.
4. Potential participants were provided with an information letter detailing the research project, together with a participation form, which they were asked to complete if they wanted to take part. (Please refer to Appendix M).

5. If potential interviewees agreed to take part a date for the interview was arranged.
6. Dates for interviews were confirmed, and the interviews took place within my work institution, in the usual quiet, undisturbed office space where I would normally see the participant's when they attend their one-to-one study support.
7. The first set of five individual interviews were conducted and digitally recorded. Each interview lasted approximately 45 minutes to an hour. In consideration of data generated in the first five interviews, the interview guide was re-shaped for two main purposes. Firstly, to be more open and flexible, and secondly, to include questions which would explore themes that emerged from the data of the first five interviews.
8. The second stage of ten interviews were carried out and again digitally recorded.
9. The process of making notes on any consistent issues, or unexpected information, from the second round of ten interviews was carried out by listening to the recordings.
10. A few additional questions were noted down to explore on the third interview guide.
11. The third stage of individual interviewing was undertaken.
12. All interviews were then transcribed into a verbatim script through the process of using Dragon Naturally Speaking software, a transcription foot pedal, and audio playback through uploading the recordings of the interviews into The Recorder App.
13. This created 20 individual verbatim transcripts in Word.
14. Manual coding was conducted by using the predetermined coding framework and writing additional codes in margins next to segments of text.

15. Segments of text that had been similarly coded were placed together in categories in NVivo software under labelled Nodes.

16. Text segments placed in these categories were analysed for patterns and were then themed.

17. A word frequency search on the 20 full transcripts was conducted for all emotion words used using find in Word software.

This enabled identification of academic tasks associated with more negative emotion words and academic tasks associated with more positive emotion words.

#### **4.16 Ethical Issues**

As previously mentioned in section 4.9 above, I submitted, once the proposal for the research was agreed, an ethics application form to the UCL Institute of Education ethics committee and ethical approval was granted. The ethics application provided a summary of the research and explained how the study abided by the British Educational Research Association (BERA) ethical guidelines. I then gained consent from potential participants by providing each student with the information letter and participation form for their completion. This was used to ensure that all participants involved in the research understood the process in which they were to be engaged, including why their participation was necessary, how the transcripts for their interviews would be used and how and to whom it would be reported. I also verbally explained this to potential participants. For those who then agreed to take part, I asked them to complete the participation form (Please refer to Appendix M). Participants were also informed of their rights to withdraw from the research at any time. Any information provided by the participants has been kept strictly confidential and anonymised with pseudonyms.

Additionally, in the writing up of the research participants have not been identified and the participants were informed of this. The findings have not been falsified, sensationalised or distorted in any way. Participants have also been told that they

can have access to the report before dissemination to ensure that they are comfortable with the documentation of information.

#### **4.17 Insider Research**

A consideration for the interviews with regards to ethics, was the fact that they were conducted as insider research. Both in the sense that as a person with a formal diagnosis of dyslexia myself, this placed me as a member of the population I am investigating, and also due to the interviews being carried out within my own workplace institution, with 13 out of the 20 participants interviewed being students I had either previously worked with or were currently supporting at the time the interviews were undertaken. Mercer's (2007) paper argues that insider research is enshrined with both advantages and disadvantages. She states that 'insiders, on the one hand, often enjoy freer access, stronger rapport and a deeper, more readily-available frame of shared reference with which to interpret the data they collect, on the other hand, however, they have to contend with their own pre-conceptions, and those their informants have formed about them as a result of their shared history' (Mercer, 2007, p.13). Whilst I agree with Mercer that being an insider enabled a greater rapport with the participants and potentially allowed the interviewees to discuss sensitive issues due to this shared identity, nevertheless, the fact that I was also their tutor, was a disadvantage, as this immediately implies an unequal power relationship. This may have had influence over the participants to respond in certain ways to questions asked. For example, when asking participants about coping techniques they are using for study tasks, I became aware that at times participants were mentioning methods that I had delivered during support sessions. Thus, participants may have thought they were being tested on how many of the methods they had remembered from our sessions together. I rectified this, by prompting the participant to think of ways they had developed coping mechanisms, not only from their support sessions, but also from school, friends, family, work, and through their own ideas

and initiatives. Furthermore, during analysis and interpretation of the interview data, I had to be astute to my insider status as member of the dyslexia population to prevent my own experiences of dyslexic difficulties from influencing the ways in which I could potentially bias the data. I therefore ensured that the analytical framework I initially used for coding, had a code for finding unexpected data; and that this search for the unanticipated was continued throughout the analytical process.

## **Chapter 5: Findings**

### **5.1 Findings of Quantitative Study**

#### **5.2 Introduction**

This chapter presents the main findings from the survey used to test my research hypothesis: 'adult dyslexic learners in higher education have a higher prevalence of academic and social anxiety than their non-dyslexic peers'.

The purpose of the survey was to replicate on a larger scale, a small-scale study conducted by Carroll and Illes (2006) in which they found that undergraduate students with a formal diagnosis of dyslexia ( $n=16$ ) had higher levels of both academic and social anxiety compared to a comparison group ( $n=16$ ) with no history of learning difficulties. In order to examine the differences between the dyslexic and non-dyslexic groups individual  $t$  tests were carried out for academic anxiety and social anxiety.  $t$  tests were also carried out to examine differences between dyslexic and non-dyslexic females and dyslexic and non-dyslexic males on academic and social anxiety. Differences between dyslexic and non-dyslexic undergraduates and dyslexic and non-dyslexic postgraduates were also conducted using  $t$  tests for academic and social anxiety. Finally, to protect against inflated Type I errors when more than one  $t$  test has been performed on a single data set, the Bonferroni correction was used.

#### **5.3 Results**

In agreement with the findings of Carroll and Illes (2006) dyslexic students reported significantly higher rates of academic anxiety than the non-dyslexic students (dyslexic students  $N = 102$   $M = 65.8$ ,  $SD = 9.7$ , non-dyslexic students  $N = 72$   $M = 57.0$ ,  $SD = 10.9$ ;  $t(172) = 5.59$ ,  $p < .001$ , Cohen's  $d = 0.85$ ) (see Figure 1). However, dyslexic and non-dyslexic students, consistent with the Riddick et al., (1999) study reported very similar rates of social anxiety and there

was no statistically significant difference (dyslexic students  $N = 102$   $M = 53.5$ ,  $SD = 11$ , non-dyslexic students  $N = 72$   $M = 53.8$ ,  $SD = 11.4$ ;  $t(172) = 0.14$ ,  $p > .05$ , Cohen's  $d = 0.02$ ) (see Figure 2)

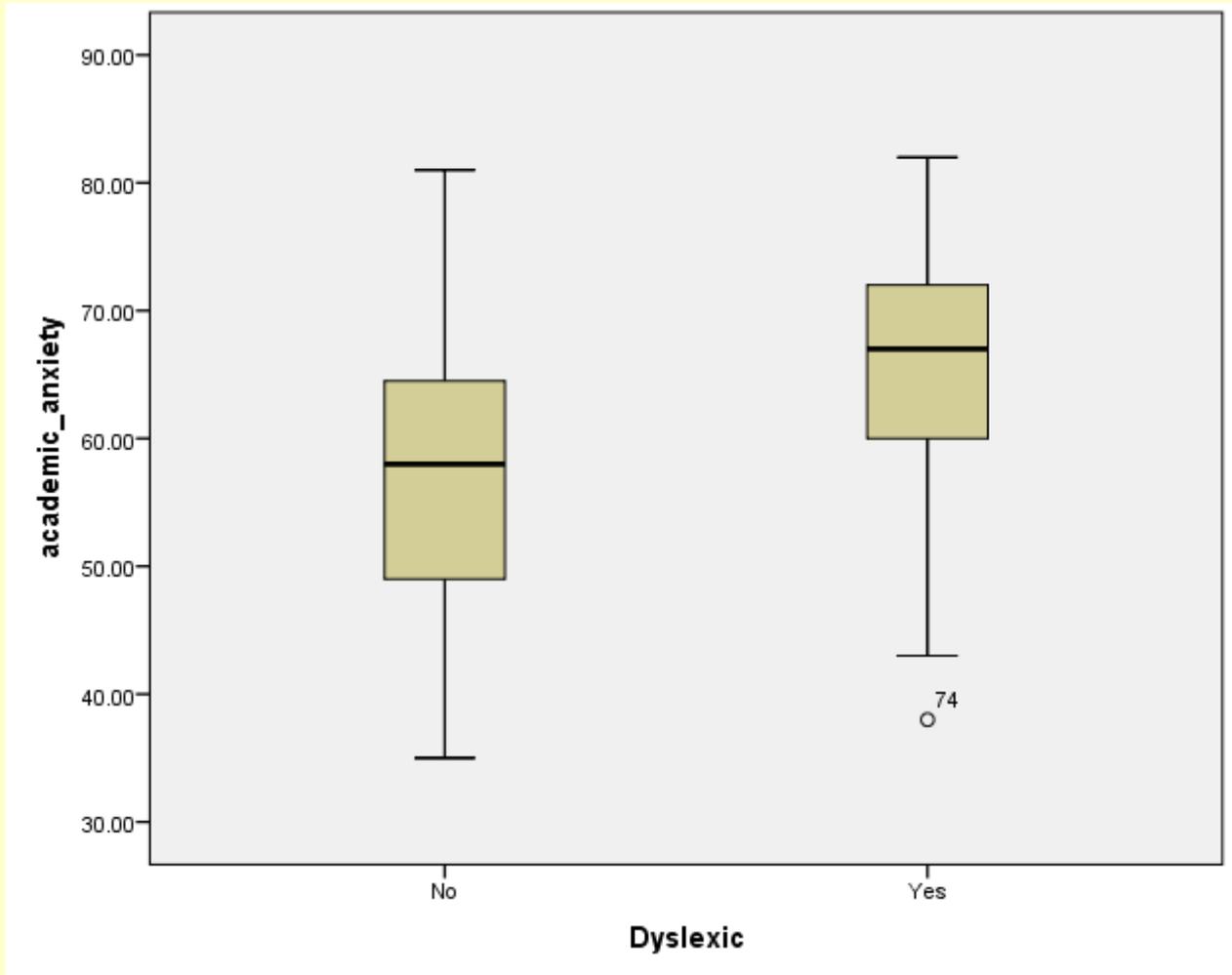
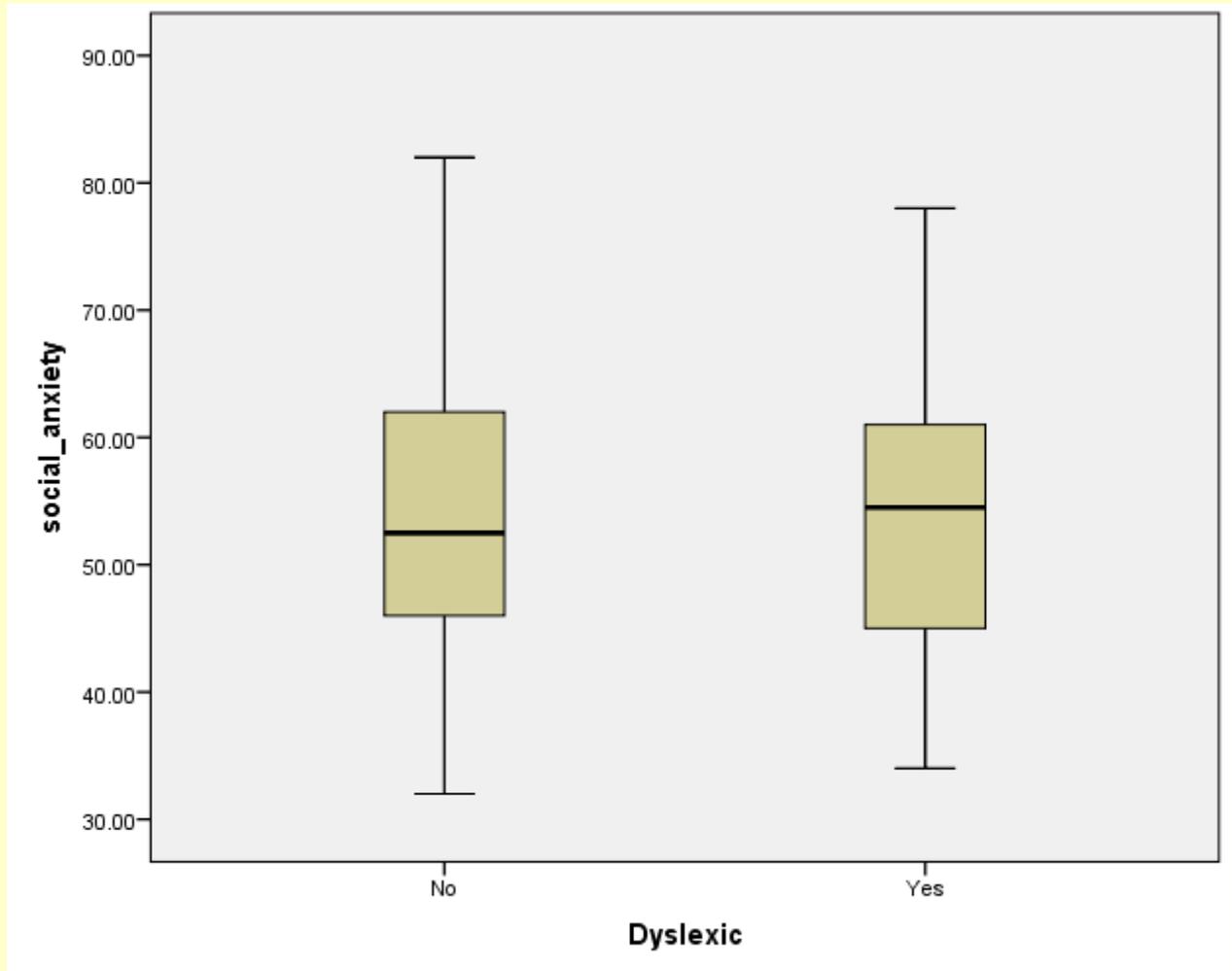


Figure 5:1 - Academic Anxiety of dyslexic and non-dyslexic students



*Figure 5:2 - Social Anxiety of dyslexic and non-dyslexic students*

Analyses were also run separately by gender and by undergraduate / postgraduate status. Gender is frequently associated with anxiety, with women experiencing higher rates than men (Chester, Chaplin, Tsakanikos, McCarthy, Bouras & Craig, 2013) and therefore separate analysis by gender was warranted. Carroll and Illes recruited only undergraduates and therefore separate analysis by graduate status was warranted.

### **5.3.1 Gender**

Female dyslexic students reported statistically significant higher rates of academic anxiety than the female non-dyslexic students (female dyslexic students  $N = 75$   $M = 66.7$ ,  $SD = 9.3$ , female non-dyslexic students  $N = 57$   $M = 57.0$ ,  $SD = 11.3$ ;  $t(130) = -5.59$ ,  $p < .001$ , Cohen's  $d = 0.94$ ). Male dyslexic students reported

significantly higher rates of academic anxiety than the male non-dyslexic students (dyslexic students  $N = 26$   $M = 63.8$ ,  $SD = 10$ , non-dyslexic students  $N = 15$   $M = 57.0$ ,  $SD = 9.3$ ;  $t(39) = -5.59$ ,  $p < .001$ , Cohen's  $d = 0.70$ ). However, female dyslexic and female non-dyslexic students reported very similar rates of social anxiety and there was no statistically significant difference (dyslexic students  $N = 75$   $M = 53.3$ ,  $SD = 11.5$ , non-dyslexic students  $N = 57$   $M = 53.8$ ,  $SD = 12$ ;  $t(130) = 0.14$ ,  $p > .05$ , Cohen's  $d = 0.04$ ). Male dyslexic and male non-dyslexic students also reported very similar rates of social anxiety and there was no statistically significant difference (dyslexic students  $N = 26$   $M = 54.3$ ,  $SD = 9.8$ , non-dyslexic students  $N = 15$   $M = 53.9$ ,  $SD = 9.2$ ;  $t(39) = 0.15$ ,  $p > .05$ , Cohen's  $d = 0.04$ ).

### **5.3.2 Graduate Status**

Undergraduate dyslexic students reported statistically significant higher rates of academic anxiety than the undergraduate non-dyslexic students (dyslexic students  $N = 68$   $M = 66.1$ ,  $SD = 9.8$ , non-dyslexic students  $N = 42$   $M = 57.7$ ,  $SD = 11.3$ ;  $t(108) = 4.1$ ,  $p < .001$ , Cohen's  $d = 0.80$ ). However, undergraduate dyslexic students and undergraduate non-dyslexic students reported similar rates of social anxiety and there was no statistically significant difference (dyslexic students  $N = 68$   $M = 54$ ,  $SD = 11.8$ , non-dyslexic students  $N = 42$   $M = 55.5$ ,  $SD = 11.9$ ;  $t(108) = -0.69$ ,  $p > .05$ , Cohen's  $d = 0.12$ ).

Postgraduate dyslexic students reported statistically significantly higher rates of academic anxiety than the postgraduate non-dyslexic students (dyslexic students  $N = 34$   $M = 65.0$ ,  $SD = 9.5$ , non-dyslexic students  $N = 30$   $M = 55.9$ ,  $SD = 10.3$ ;  $t(62) = 3.6$ ,  $p < .001$ , Cohen's  $d = 0.92$ ). However, postgraduate dyslexic and postgraduate non-dyslexic students reported very similar rates of social anxiety and there was no statistically significant difference (dyslexic students  $N = 34$   $M = 52.7$ ,  $SD = 9.2$ , non-dyslexic students  $N = 30$   $M = 51.3$ ,  $SD = 10.3$ ;  $t(62) = 0.59$ ,  $p > .05$ , Cohen's  $d = 0.14$ ).

### 5.3.3 Statistically Significant Items from the Questionnaire

On 11 individual items from the 60-item questionnaire dyslexic students scored significantly higher levels of academic anxiety than non-dyslexic students and these are presented in Table 5.1 below as they inform the interpretation of the qualitative findings. All the items in the table below are related to academic anxiety and not social anxiety. On items 'I feel a failure academically, in comparison to my peers', and 'I feel anxious when reading aloud in front of my class' this is consistent with the findings of these items in the Riddick et al., (1999) study. To protect against inflated Type I errors when more than one t test is performed on a single data set, the Bonferroni correction has been used, which is a more stringent alpha level to judge statistical significance. The adjusted alpha level is  $p < 0.002$  ( $.05/30$ ).

*Table 5:1 - Statistically significant items from the questionnaire*

	Mann-Whitney U	P Value. Sig. (2-tailed)	Greater Levels of Anxiety for Each Item Indicated by the Higher or Lower Score	Mean Score for Non-Dyslexic Sample	Mean Score for Dyslexic Sample
I am confident and happy with my academic abilities.	2715	.001	Lower	96.8	74.2
I spend longer on my work than most people.	1959	.001	Higher	64	104
I feel a failure academically, in comparison to my peers.	2373	.001	Higher	69.4	100
I feel anxious when reading aloud in front of my class.	2117	.001	Higher	65.9	103

When about to enter an exam, I feel ill / shaky.	2331	.001	Higher	68.8	101
I feel overly anxious when I have exams.	2371	.001	Higher	69.4	100
I feel my literature skills may let me down in exams.	1430	.001	Higher	56.3	109
I am often brought to tears when I think about my academic abilities.	2586	.001	Higher	72.4	98
I get angry with myself for taking so long over one piece of work.	2409	.001	Higher	69.9	100
My work suffers if I am under pressure, and I work better if I have plenty of time.	2624	.001	Higher	72.9	98
I get frustrated when faced with a lot of reading.	2384	.001	Higher	69.9	100

These individual items and the results from the quantitative study will now be explored further in the presentation of the main findings that emerged from the thematic analysis of the qualitative study.

#### **5.4 Findings of Qualitative Study**

#### **5.5 Introduction**

The qualitative study aimed to explore on a deeper level than the quantitative study the emotional consequences of studying with dyslexia and the ways that

adults with a diagnosis of dyslexia cope both cognitively and emotionally within an academic context. Although the quantitative study had identified that there are higher levels of anxiety in the dyslexic sample as compared to the non-dyslexic sample, I aimed to explore whether there are other types of emotional responses in addition to anxiety associated with study tasks for dyslexic students. I also wanted to know what dyslexic students are doing to deal with their emotions and more specifically the negative types of emotions that may impact upon their studies. Consequently, I endeavoured to discover what coping mechanisms and strategies dyslexic learners are using both in terms of cognitive coping strategies and more clearly emotional coping strategies to address negative emotional consequences, such as anxiety, frustration, and stress.

Thus, for consistency with the quantitative findings above, the qualitative findings are presented here, and interpretation of these findings is presented in the Discussion Chapter. The main findings are therefore presented below and structured around a set of interpretive sub-headed sections that emerged from the thematic analysis. It should be noted that some themes may well be relevant for non-dyslexic as well as dyslexic students.

Before drilling down into specifically identifying themes connected to student emotional response to academic tasks, dominant themes were established in relation to how students felt that dyslexia affected them more generally in their day to day lives, to provide a deeper insight and understanding of their emotional reactions to academic tasks.

1. How students' felt that dyslexia affected them generally in day-to-day life.

Consistent articulations derived from the question: how does dyslexia affect you? centred around examples that were categorised into the dominant themes of social effects; emotional effects; cognitive effects; and positive effects.

## 5.6 Social Effects

It was widely felt by learners that dyslexia affected them in social situations when it came to either reading in front of people, (as consistent with the statistically significant item 'I feel anxious when reading aloud in front of my class' in the quantitative findings), or sending texts, emails and applications for jobs, due to the embarrassment that this could potentially invoke if it was revealed that the student struggled to read aloud words from text or presented noticeable mistakes in written information. Students also felt that it affected them in social situations when it came to others, such as teachers and friends, discovering that they had difficulties in understanding either what they were reading, or following what was being said in discussions. Consequently, learners would go to great lengths to come up with tricks, such as nodding in all the appropriate places to disguise that they were not understanding what was being discussed, or they would flick over pages of written documents to pretend they were keeping up with the same reading pace as their peers. This is evidenced by the quotes below as expressed by a male and a female undergraduate nursing student and a female postgraduate arts student.

'It probably affects me in social situations, such as I hate reading in front of people.'

'I used to be really ashamed with the fact that I was dyslexic, I wouldn't read in front of people, I wouldn't write anything down.'

'I still get embarrassed by it, even just texting people. When I send emails to people, I get very nervous about 'oh my goodness, what if I've spelt that wrong and it's someone important like applying for jobs and stuff.'

'I would just pretend that I get the kind of idea behind the paragraph, like just nodding, but that was my way of showing that I wasn't struggling.'

'I would come up with loads of tricks as if to show that I read it at the same time as them.'

## **5.7 Emotional Effects**

As has already been identified from the results of the quantitative data in this study, students with dyslexia have higher levels of academic anxiety as compared to their non-dyslexic peers. Emotional effects specifically connected to undertaking academic tasks are explored at the heart of this thesis. However, as mentioned above, I also wanted to understand general day-to-day effects relating to being dyslexic, both negative and positive. Thus, the emotional, was a core predominant theme that seven of the 20 the learners interviewed (three female postgraduate students, and three female and one male undergraduate student) immediately and instinctively responded to, with the question of how dyslexia affects you. Therefore, in addition to the already identified anxiety, learners also felt that in their general and academic lives, dyslexia made them have feelings of self-doubt; always questioning their own ability and comparing themselves to others, (as consistent with the statistically significant item from the survey 'I feel a failure academically, in comparison to my peers'). For instance, a constant experience was the imposter syndrome; feelings of exhaustion through being anxious all the time; nervousness; and stress, all of which will be discussed in more detail in the following sections of the findings of the study:

'I would say a lot of self-doubt. I don't kind of really believe that I am able. I did consider myself stupid as a child.'

'I feel like I'm a bit of an imposter. I don't think that I should really be here. Somehow, I've managed to blag it and I think that's something that is going to stay with me.'

'The main thing is that it's exhausting, being anxious all the time.'

'I get nervous because my mind is quite conflicting. Sometimes I would break down a lot and you're expected to be like what the University expects you to be.'

## **5.8 Cognitive Effects**

In addition to the expected cognitive difficulties with spelling, grammar, writing, reading, etc., there appeared to be a concurrence amongst the learners that the main cognitive frustrations overriding not only the varied academic tasks, but also general duties undertaken in day-to-day life was time, and the feeling that everything conducted seemed to take longer in comparison to peers (as consistent with the statistically significant item 'I spend longer on my work than most people'). Difficulties in remembering was also a key issue mentioned by some, and problems with structuring both spoken and written language in an ordered and systematic way was also consistently mentioned.

'It just takes me longer to do things, to remember, remember what I've done, or remember what I've seen.'

'I do take a lot longer to do everything.'

'I think it takes me longer to formulate thoughts and to read pieces of work.'

Cognitive difficulties also shift with the learner's transitions from School, to University, to work:

'I would have said up until my experience a couple of months ago, (referring to placement in a hospital environment) it's always been the literacy side, I would now say that I've probably got strategies to deal with the literacy side and its more information processing that's now become an issue.'

## **5.9 Positive Effects**

There was a consistent theme amongst learners that the diagnosis of dyslexia was a relief because it meant that firstly, there was an explanation for the difficulties that they had encountered throughout their younger lives; and secondly, whereas students had previously assumed that they consistently made mistakes because they perceived themselves as stupid, the diagnosis actually indicated that their intelligence levels were relatively high and it was in fact dyslexia, rather than being stupid, that caused their problems.

'I think actually getting the diagnosis was better than before, because before I just thought that everything took me a lot longer because I was stupid, whereas now, I now know it's because I'm dyslexic, not stupid.'

For some students, it wasn't until they understood more about dyslexia and what dyslexia meant that they began to feel more positive and accepting of self:

'At first, I think I felt a bit stupid, because I'd only associate with my Dad who couldn't read or write, and then after that, I kind of started to understand what it meant, and when I understood, it made it much more easier to cope with, and then I realised why I had those problems and how I can, not fix them, but how to deal with them.'

'I've come to accept myself, not in a bad way, but as in I'm different, everyone's different.'

Other students focused on the positives of dyslexia associated with their knowledge that a lot of people in the media and film industries, with their own businesses, and in entrepreneurial leadership roles are diagnosed with dyslexia which enabled them to understand their own strengths and abilities with thinking up ideas and in making connections.

'I really want to have my own business, and then I started to read about how most billionaires and millionaires in the world are actually dyslexic, and then I thought, hang on a minute, that's probably why when I talk to people they can't understand why I've related all these things together, and to me, it's perfectly normal, and I can create a whole entire business plan and a vision in one second and people can't understand it.'

### **5.10 How student's felt that dyslexia affected them emotionally in response to specific academic tasks**

I asked participants whether they had an emotional response to a list of academic situations / tasks that University courses normally require students to do. The list included reading tasks; remembering reading; spelling; undertaking exams; producing written work and writing essays; doing presentations; using organisation skills; meeting deadlines; taking notes in lectures; and contributing to seminar discussions. The rationale for this list is that as a dyslexia study skills support tutor, these are the academic areas for which I generally provide support and strategy development. Thus, I was aiming to gain an understanding of what types of academic situations generated the more negative types of emotional responses and which tasks the more positive reactions.

I was able to categorise responses from the twenty transcripts into negative and positive emotions. Additionally, I went through the transcripts and conducted a word frequency analysis by counting the number of times each negative and

positive emotional word was used. Negative and positive emotional participant responses and frequencies are shown in Table 5.2 below. What struck me most forcibly, however, was the range of negative emotions described, compared to the number of positive words, and repetition of the word 'frustration' described by the Oxford English Dictionary as 'the feeling of being upset or annoyed, because of being unable to change or achieve something', which was prevalent across all academic tasks.

Table 5:2 - Frequency Scores for Negative Emotion and Positive Emotion Words

Used

Negative Emotion:	Frequency of Word:	Positive Emotion:	Frequency of Word:
Frustration / Frustrated	9	Enjoyment	7
Hate	8	Happy	4
Anxiety	7	Confident	4
Stressed	7	Competent	3
Panic	6	Fine	3
Nervous	6	Excitement	3
Fear	5	Positive	2
Feeling stupid	4	Humorous	2
Annoyed	4	Amused	2
Worried	4	Capable	1
Terrified	3	Enthusiasm	1
Angry	3	Driven	1
Depressed	3	Determination	1
Drained	3	Thriving	1
Dread	2	Competitive	1
Uncomfortable	2	Focus	1
Pressurised	2	Conscientious	1
Confused	2	Calm	1
Crying	2	Relief	1
Afraid	1	Relaxed	1
Upset	1	Chuffed	1
Alienation	1	Indifferent	1
Frozen	1		
Embarrassment	1		
Scarred	1		
Defensive	1		
Inadequate	1		
Breakdown	1		
Perfectionism	1		
Unnerved	1		
Shut-down	1		

Over-whelmed	1		
Sick	1		
Distracted	1		
Irritated	1		
Withdrawn	1		
Shy	1		
Total	100	Total	43

With positive emotional responses, again, the students used a wide range of words to verbalise the types of positive emotion that they felt in relation to their studies with the word 'enjoyment' defined as 'the state or process of taking pleasure in something' being the term most often used. This was closely followed by 'happy' another variation of the word 'enjoyment' meaning 'feeling or showing pleasure or contentment'. Also noticeable was the frequency that students spoke about being confident and capable with certain tasks demonstrating that in some academic areas, they are very certain of their own strengths and abilities.

As indicated by the total number of negative words compared to positive words used, students used a much larger range and amount of negative emotional responses than positive responses.

### **5.11 Explanations for emotional responses to academic tasks**

The next section focuses on the findings in relation to the explanations for those negative responses. Additionally, on having identified most frequently used negative responses, I wanted to probe deeper into the students' reasons for those types of negative emotions. I therefore asked participants if they knew why they felt that way.

With a high degree of consistency, the students had a great deal of awareness of reasons why they felt negative about academic tasks. They did not respond to the question by using it as an opportunity to complain about tasks set by the university, but instead were able to reflect in relation to their own specific inner

difficulties with academic work and why this led to negative feelings, such as frustration and hate for certain tasks. Consequently, five main themes on explanations for negative emotions were established from the data.

#### **5.11.1 Time**

Five of the participants felt the reason for frustration with some tasks like reading was due to the amount of time that had to be allocated to the task to focus and to work through reading. As already noted above, this is consistent with the findings from responses to the item 'I spend longer on my work than most people' from the quantitative study. Some students' worried that once undertaking the task they were spending too much time on it due to slower reading and processing speeds. Time was also a cause of frustration because some participants felt they were having to repeatedly re-read some academic texts to comprehend them, or to understand the main points.

#### **5.11.2 Retention and Retrieval Difficulties**

Expanding on the issue of time, eight students had negative emotions connected to tasks, particularly exams, because they were unable to remember information they had previously absorbed from readings and lectures and could not retrieve the relevant knowledge during the tests (as consistent with the statistically significant item 'When about to enter an exam, I feel ill / shaky').

'I get really frustrated that I don't remember exactly what it was, or because it's not that I remember as if I never read it, I know there's something I know, but I can't recall it.'

#### **5.11.3 Processing Difficulties**

As well as retention and retrieval difficulties, processing of language in terms of both output and input was viewed as fostering negative emotion. For example, in relation to output of language, one participant spoke about negative experiences from school of being made to read out loud and being unable to pronounce words,

which still resonated with negative feelings. For input, the processing of both written language and auditory information provoked negative reactions. One student spoke about reading notes and nothing going in, whilst another student recalled being in lectures and being unable to digest the auditory information which impaired the ability to make appropriate lecture notes.

As well as the cognitive related difficulties causing negative emotional responses, as described above, psychological related aspects consistent amongst participants were also identified as contributing to negative feelings.

#### **5.11.4 Being Evaluated and Judged and the Fear of Looking Stupid and Being Embarrassed**

Twelve out of the twenty participants spoke quite openly, and regularly about negative emotions deriving from academic situations where they felt they were being evaluated and judged in some way. For example, one student, comparing herself to others, thought it was hard when the Lecturer gave out reading documents to do during the class, as she felt she was being watched reading by her peers and evaluated on her slowness to work through the material, whilst her peers were rapidly flipping over the pages. As already noted above, this is consistent with the findings from responses to the item 'I feel a failure academically, in comparison to my peers' from the quantitative study. Other participants were embarrassed at being asked to read out loud or were uncomfortable if their spellings were on show for the class to see. In seminar discussions and presentations, a few of the students felt that those types of tasks gave rise to confounded negative responses due to the fear of other people thinking that they were stupid, or because they themselves felt inadequate in some way. This is consistent with the findings from responses to the item 'I am confident and happy with my academic abilities' from the quantitative study. Thus, one student spoke about not being comfortable in big groups.

'My insecurities would be like speaking, groups and stuff.'

#### **5.11.5 Not Understanding What Is Required or Not Having Any Strategies to Cope**

In addition to both the cognitive and psychological causes of student negative emotion, four of the participants felt that their negativity had been centred around either not understanding what is required to accomplish academic tasks, or not having had the appropriate techniques to cope.

One participant, on reflection of the emotional consequences suggested:

'I'm somehow thinking that it comes from this idea of not really understanding what is required, or, you know like I said earlier about guessing, like when I was in School, I felt like certain things were a mystery and I didn't really understand'

Another student spoke about the differences between her first degree and master's degree. She hadn't coped with her undergraduate course because she hadn't had any strategies to deal with it. However, after her diagnosis of dyslexia at the end of her BA and her subsequent knowledge of techniques appropriate for how she needed to learn, this led her to cope more effectively:

'In my first degree, I don't think I did, because I only found out right at the end, so I never really coped with it, so I didn't know what to do. My Masters was the first time that I actually had a strategy and had different ways, so then I became more consciously aware because then I had to change. I basically was trying to change everything I'd learnt for the past 20 odd years'

These were the principal themes regarding explanations for negative emotional responses.

### **5.11.6 Summary of Main Findings for Explanations for Negative Responses to Academic Tasks.**

*Table 5:3 - The Five Main Themes on Explanations for Negative Emotions and the Number of Participants who Spoke About Each Theme:*

<b>Themes</b>	<b>No of Participants out of 20</b>
Being evaluated and judged and the fear of looking stupid and being embarrassed.	12
Retention and retrieval difficulties	8
Time and taking longer to do tasks	5
Not understanding what is required or not having any strategies to cope.	4
Processing difficulties.	3

The most dominant theme on explanations for negative emotion in connection to academic tasks was being evaluated and judged and the fear of looking stupid and being embarrassed closely followed by retention and retrieval difficulties. Whilst fewer participants spoke about processing difficulties and not understanding what is required, or not having any strategies to cope. Next, attention is directed at which types of academic tasks were invested with the higher levels of negative emotional reaction for participants.

### **5.12 Types of Academic Tasks Generating a High Level of Negative Emotional Response**

From the list of academic tasks discussed during the interviews (please refer to the interview guide Appendix E for the complete list of tasks), although most elicited a mixture of negative and positive emotional responses, some tasks were more heavily weighted towards inciting negative reactions. These tasks included exams, deadlines and note-taking in lectures.

### **5.12.1 Exams, Deadlines and Note Taking in Lectures**

A theme which sixteen of the participants spoke about with a high degree of consistency was exams, associated with reports of stress; anxiety; terror; and panic of failure, (consistent with the statistically significant items 'When about to enter an exam, I feel ill / shaky' and 'I feel my literature skills may let me down in exams' from the quantitative study). For example, one student spoke frankly about how the anxiety provoked in undertaking exams could lead her to misinterpreting information and questions on the exam paper:

'When you get into the exam sometimes, you're so anxious that you're not going to be reading the question properly'.

Similarly, to exams, deadlines were principally associated with negative emotion and were equally balanced with exams for generating the largest number of negative responses. These were centred around the themes of stress, worry, anxiety, panic, feelings of dread and being terrified, overwhelmed, sick and nervous. One participant revealed how the dread of deadlines interfered with her concentration and focus on doing the work:

'Each day it gets closer, I'm just kind of dreading it even more and especially if I haven't started early enough, that deadline just seems like I can't make it. I just kind of feel like sick and just worried all the time, even when, like when I'm focusing on work, I just feel not able to put a hundred percent in'.

The main theme regarding emotional responses to note-taking in lectures was frustration and anger targeted towards self, annoyance, stress, panic, worry, and feeling drained and irritated if the pace of lectures was too fast.

### **5.12.2 Summary of the Main Findings for Types of Academic Tasks Generating A High Level of Negative Emotional Response.**

*Table 5:4 - The Academic Tasks Generating a High Level of Negative Emotional Response and the Number of Participants who Spoke About Each Task:*

<b>Academic Tasks</b>	<b>No of Participants out of 20</b>
Exams	16
Deadlines	16
Note Taking in Lectures	16

Exams, working to deadlines and note taking in lectures generated an equal number of negative emotional responses as sixteen out of the twenty participants consistently associated these tasks with inducing negative emotions.

### **5.13 Types of Academic Tasks Generating a Mixed Balance of Negative, Indifferent and Positive Emotional Response.**

#### **5.13.1 Reading, Remembering Information and Spelling Tasks**

Reading, remembering information and spelling generated a more mixed balance of negative and positive emotions, but the negatives slightly outweighed the positives. For example, with reading tasks seven of the twenty participants hated the task and spoke about feeling anxious, stressed, frustrated and uncomfortable when reading. A persistent emerging theme was the frequency that participants spoke about feeling stupid with reading, particularly when asked to read out loud. Nevertheless, three of the students spoke of feeling enthusiasm for this task and feeling happy, capable and confident when it came to reading for studies. Tasks associated with remembering large chunks of information, such as concepts in reading materials and the memorisation of learnt processes and procedures were predominantly linked with the emotion of frustration, annoyance and anger

targeted towards self, and one participant recalled feelings of alienation, confusion and being frozen when asked about this task:

'I would say the emotion for (remembering tasks) is kind of like an alienation. I just feel like I can't take part, well I can't take part, because I don't know what's going on. I think it effects my mood because I feel like I don't understand. I'm looking round and everyone else seems to be engaging in this process and being able to do this and I can't. I think it make me feel stupid, makes me think maybe this isn't the right thing for me. I guess it just confuses me as to the extent that I can't do it and other people can, because in most things, there's usually ways to cope with it, but there doesn't seem to be a way to cope with it in this situation because I'm just literally kind of frozen'.

Four of the students also felt indifferent, confident and humorous when it came to remembering tasks.

A consistent dominant theme associated with spelling tasks was embarrassment and frustration, although some of the older, post-graduate students said they felt amused by it and found it funny. For example, a mature science PhD student spoke about how her feelings for spelling ranged from one of embarrassment to amusement, as although she had an ability to undertake very complex scientific procedures on muscle regeneration for her studies, she still stumbled with the spelling of straightforward words:

'I'm a little embarrassed about my spelling sometimes, but I find it amusing. A really fun one for me is things like 'breath', or anything that involves normally a load of vowels. I'm really good at mixing them up.'

### **5.13.2 Presentations and Seminar Discussions**

Both presentations and seminar discussions evoked a mixed balance of both negative and positive emotions from participants. For example, although the overriding theme for presentations was nervousness mixed with anxiety and fear, the negatives were more equally balanced with positive emotions as five of the

students also talked about feeling competitive, confident, enjoyment and comfortable in undertaking this task. Seminar discussions also generated an equal balance of negative and positive emotions. With the negatives, three of the participants felt withdrawn, shy, nervous, anxious, frustrated and worried particularly around articulating themselves in discussions, as one student described:

'My point wasn't coming out clearly and some people weren't able to understand what I was trying to say. I wasn't confused, but not being able to kind of articulate myself in the way I wanted kind of worries me and then I just kind of feel like shy.'

However, negative emotions for these tasks were equitable with the more positive, as seven students described being confident in their verbal abilities, interested, felt enjoyment on testing ideas verbally and felt excited with this task.

### **5.13.3 Summary of the Main Findings for Types of Academic Tasks Generating A Mixed Balance of Negative, Indifferent or Positive Emotional Response.**

*Table 5:5 - The Academic Tasks Generating a Mixed Balance of Negative, Indifferent or Positive Emotional Response:*

<b>Academic Tasks</b>	<b>No of Participants out of 20 with Negative Emotional Response</b>	<b>No of Participants out of the 20 with Indifferent Emotional Response</b>	<b>No of Participants out of 20 with Positive Emotional Response</b>
Reading	7		3
Remembering	7	4	0
Spelling	7	1	2
Presentations	5		5

Seminar	3		7
Discussions			

Whilst reading, remembering and spelling tasks were weighted more negatively than positively in relation to emotional response generated, presentations were balanced equally between negative and positive, whilst seminar discussions were associated with more positive than negative emotion.

## **5.14 Types of academic tasks generating more positive emotional responses**

### **5.14.1 Writing**

It was predominantly postgraduate students that talked about the mixed emotions of enjoyment and excitement due to the creative production processes involved in writing, the synthesis of ideas coming together and being able to investigate a topic, as described by these two postgraduate students:

'I always like essays, written work. The whole synthesis of the thing, especially when you get a good conclusion at the end of it and you bring it all together.'

Whilst another postgraduate explained that the enjoyment was connected to investigation and the aspect of solitary work that writing tasks entail:

'I like it because I like to figure things out and to investigate things and I can do it on my own and without somebody pointing at me or telling me all the time what I'm doing wrong, that's okay'.

Thus, positive words used to describe emotions generated in association with writing tasks included: determination; focus; enjoyment; fine; happy; a mixture of excitement and dread; relaxed; positive; excited and chuffed. Although for the postgraduates writing was linked to invoking more favourable emotions, these feelings however, were still combined with anxiety, stress, self-doubt, dread,

depression, feeling drained and fearing starting to write, and eight of the undergraduate student responses to writing were typically more negative. An undergraduate student on just completing her final year dissertation recalled her feelings of self-doubt when she was offered a place at university and was having to write her first essay:

'I'm not academic enough, I'm not suitable, they've made a mistake by accepting me, so it was this whole doubt and then when I had to do my first essay, I remember changing my bedsheets and just breaking down crying. I had this panic and I just thought I have no idea what to do, I need to write an essay, I've no idea where to start'

#### **5.14.2 Organisation**

Although organisation may be considered as more of a strategy than an academic task like exams or writing, I still categorised this as a task, as I was interested to see what types of emotions, negative or positive, it generated, because staying organised and using time efficiently are key components to achieving success at university and a primary focus for dyslexia support.

It was four of the postgraduate participants and two participants on the final year of their programmes that loved being organised as by postgraduate stage, they have clearly identified this as an essential strategy to ensure their success. A final year participant noted in the discussion of organisation:

'That's one of the strategies I have to have in order to move forth.'

Thus, the main theme connected to emotional response to organisation was that most participants loved this task, enjoyed it, felt able and capable, felt in control and were obsessive with organisation to the point of being militant about it. Hence, positive emotion words associated with organisation ranged from: love, obsessed, satisfied, enjoyment, fine, positive, and competent.

One student, however, out of the twenty interviewed discussed feeling frustrated with organisation and another student felt confused because she was over compensating with preparation to attempt to minimise disorganisation:

'Confused, I get really frustrated, but organised, sometimes it sounds stupid, I over plan in the sense of Uni, sometimes I will take every notebook I have because I might need them, and it may not be the case of actually being organised, it's just having the preparation in case I'm not organised.

### **5.14.3 Summary of the Main Findings for Types of Academic Tasks Generating A More Positive Emotional Response.**

*Table 5:6 - The Academic Tasks Generating a More Positive Emotional Response*

<b>Academic Tasks</b>	<b>No of Participants out of 20 with Positive Emotional Response</b>	<b>No of Participants out of 20 with Negative Emotional Response</b>
Organisation	11	2
Writing	10 (postgraduates and final year students)	8 (all undergraduate students in years one and two)

Whilst organisation was associated with positive emotion for eleven students, two students felt confused and frustrated by this task. Writing derived positive emotion for postgraduate and final year students, yet for eight of the undergraduate students writing was connected negatively with feelings of self-doubt.

In addition to asking students their emotional responses to a set of academic tasks generally required on degree level courses, I also asked whether there were any other types of tasks or experiences either within or outside of the university environment that generated negative emotional reactions.

## **5.15 Other tasks or experiences connected to negative emotional responses**

The main themes that arose from other tasks or situations that evoke anxiety, stress, or worry for dyslexic students involved socialising; being required to use skills such as thinking on one's feet; improvising; and using working memory. For example, a trainee nursing student recounted her anxiety whilst on placements when she was asked to verbalise aloud names of drugs and to conduct on the spot mathematics for the purposes of calculating patient drug dosages accurately.

'Probably on the spot maths is a bit hard when we're in the training centre and we're doing practical training and their like okay, 'Mr Jones who is on 40 mils of this and 50 mils of this and 23.5 mils of this, so how many mils?' and your like, arghh!'

Working with others who have a lack of knowledge and understanding around dyslexia also provoked anxiety due to having to deal with people's perceptions and stereotypes towards dyslexia, as detailed by Antonia, a final year PhD Science student:

'The only times that are slightly difficult is when you're dealing with somebody who has never dealt with someone with dyslexia. I'm my Supervisor's first ever student who has a technical learning difficulty, or learning disability, or whatever you want to call it. So, I'm his first one, so, he's found it quite challenging to not be very harsh and I think that's one of the biggest obstacles is when you start to encounter people very high up in academia, they don't always experience dyslexia as someone like a School Teacher would, or experience people who have sort of difficulty with learning certain aspects and I think that's been one of the hardest, is dealing with their reaction, so it's not necessarily the work'.

The themes from the data on other experiences that generate negative emotions highlights that dyslexic adult learners' difficulties are not merely confined to academic situations but extend to all aspects of their day-to-day lives and are on

a continuum throughout the transition from university to the work environment. For example, one participant noted that a main difficulty was the feelings of anxiety generated in writing covering letters for jobs, advertising their skills in writing, which for them was particularly worrying, because of their low self-esteem.

### **5.16 Types of Coping Strategies being used to Overcome Cognitive Weaknesses and to Deal with Negative Emotional Consequences**

The next focus for the analysis was to establish the various ways that students with dyslexia cope and deal with both cognitive difficulties impacting on their studies and the more negative emotional reactions like anxiety. I also wanted to ascertain whether cognitive coping reduced negative emotions.

### **5.17 Themes for Cognitive Coping**

As my first interview guide (please refer to the Appendix E) was structured around asking participants, firstly, the ways in which they cope with particular academic tasks (please refer to justification of this in the Methods section) and secondly, how they cope with their emotions in connection with these tasks; it became apparent that participants only talked extensively about particular types of cognitive techniques that they found helped their learning, rather than discussing any types of emotion-focused coping strategies that they were using. They appeared to value the opportunity to reveal their own unique devices and methods that they employed for the purposes of cognitively coping with academic learning tasks. Thus, it became clear that dyslexic learners at university level have made it to this stage of education due to their resourcefulness and knowledge on types of cognitive techniques suitable for their individual learning styles, that they can utilise to succeed in their studies. The six main cognitive themes identified from the substantial amount of data in this area therefore includes: application of

specific cognitive techniques; use of specialist technology; multisensory ways of learning; doing practical things; alleviating scotopic sensitivity; and use of favourite materials, are presented in more detail in the summary table in Appendix L. Such cognitive coping strategies have a role in coping with emotions, as recognised by Folkman and Lazarus (1984) and Skinner et al., (2003) in the form of problem solving/instrumental coping. Cognitive techniques given below have been selected to exemplify the relationship between cognitive coping and its potential to reduce negative emotion for the participants. This demonstrates that although emotional coping appears to be of little importance for participants, in some cases, cognitive coping is being utilised to alleviate emotions such as anxiety and stress. Finally described are the key themes emerging from the small amount of data on strategies participants explicitly articulated as helping with coping emotionally.

#### **5.17.1 Organisation Techniques**

Thirteen out of the twenty participants reported that organisation helped to curtail negative emotions, such as feeling anxious, stressed, disorganised and angry. Organisation skills and making a plan of action and following it thus, was a key to learners becoming calmer and more focused:

'When I was younger, I was completely disorganised and angry at everything, I thought I was stupid and I was a pretty angry child because of everything, but once I started to organise things, it calmed down a bit because I was able to focus, and my focus was to make sure that everything was organised and then everything did have a place, and it was a bit more logical.'

Thus, a link was identified between the cognitive strategy of being organised with work as having an effect of being organised and calmer in the mind which consequently reduced levels of stress and anxiety:

'I think that I have to be organised in my brain'

The consensus on strategies for organisation was starting assignments and essays early, as soon as questions and guidelines were issued by academic staff, and the breaking down of larger projects and pieces of coursework by setting mini-goals.

'I feel like if I start it early, I can pace it out.'

'The sooner I can get it done, the better. So, if I had one month to do a 5000-word essay, my first thing would be like okay, this week I'm going to do the plan, then I've got to write 1,200 words a week, and if I say I'm going to do that, I'm going to do it, even if it's a load of rubbish, it's done.'

One student recalls her frustration in the realisation that she needs to work differently to her peers by starting her work from the first day it is allocated:

'From day one, I would never leave it, actually my peers at Uni, they always say 'oh, don't be so stressed Caroline, you've got plenty of time' and it irritated the shit out of me, because I was like 'no, you might think so, but I don't work like this,' I need to start, and a lot of them laugh at me.'

It was also evident that organisation needed to be very visual, with the colour coding of wall calendars with different colours blocked onto specific dates signifying deadline dates, with each colour representing a different module. One learner, terrified of making mistakes, such as forgetting, or misreading important deadline dates, referred to organisation strategies as making systems to be controlled by to compensate for her short-term memory deficits, which led to the mistakes in the first place:

'I try to make up systems which could control me. Calendars, writing things out, making notes.'

Organisation was also used by students to maintain focus and to prevent procrastination in their work:

'I have a lot of things with schedules and plans, like I have to do like to do lists for every day, because otherwise I don't focus on anything, or I don't get things done and I procrastinate.'

### **5.17.2 Rehearsal and Preparation**

Rehearsals and preparation proved to be the consistent theme on strategies for alleviating nervousness and anxiety in association with undertaking presentations. Twelve out of the twenty learners said they would plan, and then repeatedly perform the presentation, timing it as an indication of whether it needed to be either edited down, or expanded upon:

'I make sure that it is to the time limit, so I will practice it with my mum, and she will time me, and then I will cut it if it needs to be shorter.'

Other students would rehearse and then practice verbalising aloud answers to questions that they would potentially be asked at the end of the presentation to feel prepared and to reduce anxiety around unexpectedness. Making and using scripts to refer to, also provided reassurance, that if panic set in during the presentation, visual indicators marked onto the scripts would provide prompts of where to pause and breathe:

'I will read it out loud, and I will put little slashes, little like forward slashes in pencil on my script, so if I do panic and start to talk too fast, I can see from the slashes where I can pause and breathe and then restart.'

Getting the audience to do activities during the presentation, was also used as a strategy by a student to divert the focus and spotlight away from themselves, at the start of the presentation.

### 5.17.3 Summary of Key Themes for Cognitive Coping

*Table 5:7 - The Cognitive Coping Strategies Used to Deal with Academic Tasks and the Cognitive Coping Strategies Used to Deal with Both Academic Tasks and to Reduce Negative Emotion:*

<b>Cognitive Coping Strategies Used to Deal with Academic Tasks</b>	<b>No of Participants out of 20 Using the Strategy</b>	<b>Cognitive Coping Strategies Used to Deal with Both Academic Tasks and to Reduce Negative Emotion</b>	<b>No of Participants out of the 20 Using the Strategy</b>
Application of specific cognitive techniques	20	Organisation techniques	13
Use of specialist technology	20	Rehearsal and preparation	12
Multisensory ways of learning	20		
Doing practical things	20		
Use of favourite materials	20		

Alleviating scotopic sensitivity	5		
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Twenty out of the twenty participants interviewed are using the cognitive strategies of applying their own specific cognitive techniques, using specialist technology, applying multisensory ways of learning, doing practical things and using favourite materials to help to cope with academic tasks. Five out of the twenty students were also using techniques to alleviate scotopic sensitivity as not all students with dyslexia have this syndrome. The specifics of these coping strategies and how they are applied for each academic task is broken down in the table in Appendix L. Thirteen out of the twenty students used organisation techniques to help with both cognitive and emotional coping and twelve out of the twenty students used rehearsal and preparation to help to cope both cognitively and emotionally.

### **5.18 Themes for Emotional Coping**

Although students did articulate negative emotions surrounding their dyslexia, which were deeply rooted and associated with their prior experiences of feeling shame and stupidity, the participants were much less forthcoming about coping strategies for these emotional issues, in contrast to their discussions of their battery of cognitive coping strategies. However, a few interview participants did admit that they did not cope emotionally, whilst a few of the other students considered things such as exercise and hobbies that they were participating in outside of the University environment, which they categorised as their ways of coping with the more emotional and mental health effects of studying as a dyslexic student. As such, themes for emotion-focused coping can be divided into the ten themes of: talking to someone; avoidance; getting stressed, worried and crying;

panicking; withdrawing from social interaction; planning and using strategies; implementing breaks; participating in exercise; seeking comfort; using mental resilience, such as persistence and determination.

### **5.18.1 Avoidant Strategies**

By far, the most consistent theme being used by eight of the twenty participants as ways of coping was avoidant strategies. For example, a search through the transcripts for the word avoid, revealed that this had been mentioned by 9 out of the 20 participants. Avoidance was applied across the range of study tasks, for example, some learners would avoid reading more complex materials for their courses. For other students, reading was still associated with negative experiences encountered at School, so avoidance would be used to prevent harmful memories from school days re-occurring:

'I think when I was younger, I probably used to read out loud in School, but I always used to mess up my words and go wrong and things like that, so I just kind of started to avoid it at all costs really.'

Some learners would use avoidance for writing and spelling tasks, through evading writing down certain words in front of others if they knew they had difficulties in spelling the word:

'Avoid writing in front of someone else.'

Instead, more difficult words would be replaced with words with the same meaning, but words that the learners could spell, which acted as a mask to disguise their spelling difficulties.

'I was quite good at avoiding certain words, so I would actually write *gift* instead of *present*.'

'So, I have to spell *scarred* quite a lot and I have to get someone else to check it, or I will use a different word completely to avoid using it over and over again.'

Although this form of avoidance with words is to replace or substitute the difficulty with an alternative, the more harmful type of avoidance involved not making any attempt whatsoever to undertake some types of study tasks. For example, one learner had avoided all types of formative and summative presentations, and during the interview confessed that although she was terrified of presenting, constantly coping with avoiding it was also unsatisfactory:

'It's a way of coping with it, but it irritates me because sometimes I feel like I've got lots to say. I would love to stand up. Yeah, one day I'll do it.'

Another student would procrastinate continuously to avoid writing and as a consequence was frequently applying for extensions to coursework, which was taking its toll on mental health processes:

'I put it off, I avoid.'

### **5.18.2 Withdrawing from Social Interaction**

A variation on the theme of avoidance, which a couple of the learners spoke about involved the avoidance of other people and withdrawing from social interaction with peers from the course:

'I don't talk to other people about what they're doing, because that stresses me out. So, I tend to go quite quiet and will not want to talk.'

Although the learner felt that through non-interaction with peers, it prevented comparisons of work and thus, stress, this can however, be perceived as negative and harmful, due to the fact of becoming isolated from social engagement.

Another learner, who was a trainee nurse spoke about feeling victimised by colleagues during placements due to his slowness to absorb verbal information

and instructions from more senior staff which led to their frustrations with his work. To cope, he would withdraw into his room to listen to music and would try to ignore his work peers:

'Yeah, just like listen to music and just like, I don't take any notice, that's what I do, just like brush them off.'

### **5.18.3 Getting Stressed, Worried, Crying and Anger**

Getting stressed was a more destructive response to negative emotions which fourteen out of the twenty participants spoke about. Stress defined by the Oxford English Dictionary is 'a state of mental or emotional strain or tension resulting from adverse or demanding circumstances.' Situations or circumstances that trigger stress can be varied and may be encountered at any stage during a dyslexic learner's academic career. For example, one post-graduate student who had achieved a first-class degree in his undergraduate course partly due to his effective application of cognitive strategies, explained that his new postgraduate course required assessment on placements in a very busy, pressurised hospital environment which he had never experienced before. During the placement, it suddenly became apparent to him that his processing abilities of auditory and verbal information from supervisors and work colleagues was significantly affected by his dyslexia. Because of struggling to act on verbal instructions from senior members of staff and to use the skill of thinking on his feet, the learner became increasingly stressed and anxious by the situation, which he describes as manifesting his cognitive dyslexic difficulties even further, which then incited and increased the stress, so that the two worked together in a vicious cycle:

'As soon as something is stressful, or I'm worrying about something, it (dyslexia) will start to manifest much more defiantly, whereas normally I can just bubble along, stress starts to impact, and it just affects retaining, processing information, relevance of information, writing information, processing, in just every way that dyslexia would

affect me, it just seems to get ten times worse, and then I panic about that, and then it gets worse.'

Another theme that participants regularly spoke of as a way of dealing with non-productive emotional consequences of studying as a dyslexic learner was to cry:

'I will end up crying, or getting really stressey, or shouting...I'm really bad at it (coping emotionally), I know I'm really bad at it.'

'I'd probably get to some point, maybe if I had a lot of coursework, where I'd probably cry.'

Although some participants described crying as 'bad' coping, they also spoke about it as a cathartic emotional release, after which they could continue and try again:

'Cry myself to sleep, and then the next day, I'll be fine. It's just an emotional release, like just get rid of it all and then just start again the next day.'

Thus, perhaps a more destructive emotional outlet which was discussed by participants was anger at self, or at others. Whilst anger can be productive if it is channelled to identify problems, or motivates the learner to create change, the student that spoke about anger was using this unhelpfully as self-blame to constantly critique what she perceived to be her own inadequacies. Consequently, she was constantly setting high-expectations for herself and then feeling destructive at her inability to make progress:

'Sometimes I manage to calm myself down and to think get over it, it doesn't matter, sometimes I just stay angry for a while.'

Another learner, who was a trainee nurse participated in destruction to cope emotionally when he failed his assignment, by ripping up his house mates and another trainee nurse's nursing uniform:

'I failed my assignment and my housemate gave me her old uniform, and I just ripped it up. It was quite therapeutic.'

Although the ripping up of the uniform is seen as a restorative process for the learner, these types of destructive behaviours can be potentially negative, as destruction cannot be viewed as dealing positively with the failure, and additionally, the learner may find that he becomes alienated from others due to the harm being caused.

#### **5.18.4 Panicking and Freezing**

A further interesting reaction to emotions was panic, defined as 'sudden uncontrollable fear or anxiety, often causing wildly unthinking behaviour' which was mentioned by six out of the twenty participants. One post-graduate student, recognised that the response of panic led to thinking unhealthily, and consequently impacted further on working memory processes:

'I will panic about it and I have now identified that that is unhelpful thinking and I will start to think more unhealthily, which will take out more of my working memory, which will make me less able to do it and it just gets worse.'

Panic and other forms of negative emotional reactions impacting on working memory and processing abilities, were experienced by an undergraduate dietetics student, who observed that because she didn't have strategies with coping emotionally, she would breakdown and literally freeze and consequently, would be disabled from absorbing and understanding her learning:

'I don't cope with it. I have a breakdown. I don't cope. I try and move on and I just get stuck. Last Saturday, I wanted to finish this lecture on diabetes. Anyway, there was seventy-five slides in the whole thing and I'm on slide thirty-six, and I was on slide thirty-six on Saturday at 9am, and I was still on slide thirty-six at 7pm. I didn't even move on one slide. I just froze.'

### **5.18.5 Seeking Comfort**

For four of the participants, this involved the eating of comfort foods, such as chocolate, and the thoughts of drinking alcohol before presentations to feel more confident:

'I probably just munch on my chocolate pot, like this will do.'

'Sometimes I think I should try red wine because you get more into an atmosphere of talking.'

Other forms of comfort that learners talked about in relation to emotional coping included using the family pet dog as a comforter and as an aid to structuring the day, so that when the dog required walking, it would indicate time to implement breaks into studying.

'Funnily enough the one thing that used to be the most help was I had a dog and he was a comfort pet, because he would quite happily sit with me and then I was able to kind of structure my day around him for like when he wants a walk, and get up and feed him and stuff, and he wouldn't let you stare at a screen for too long.'

### **5.18.6 Planning and Using Strategies**

Detailed above are examples of how some participants have an array of personalised cognitive strategies at their disposal for helping to overcome cognitive weaknesses in their learning and I specified above examples of how thirteen of the twenty participants are using planning in terms of organisation and preparation for activities such as presentations to alleviate nervousness and anxiety. Additional things however, to those detailed above in relation to how participants are using planning and implementation of their own unique strategies for alleviating negative emotions involved some participants using planning and preparation to avoid feeling stupid in front of their peers. For example, one student rather than read aloud sections of research papers during seminars in front of her

peers, had instead devised the strategy of summarising the paper in her own words, which she then presented to the seminar group. That way she was able to relinquish the anxiety she felt when her reading difficulties were exposed to the class by being required to read aloud in front of others.

'I read it, then summarise to the class what the scenario was about. That way no one ever knows.'

#### **5.18.7 Implementing Breaks**

Six out of the twenty students frequently spoke about implementing breaks as a way of maintaining focus and to relax the mind:

'I will try and focus on something for about an hour and then I have a ten-minute break.'

For some learners, the implementation of a tea break came as soon as they got to a point where they were no longer able to absorb the information:

'When it gets to a point when I know I'm not focusing on it properly, go away, have a cup of tea, come back, try again.'

Other learners found that they were able to think better and to absorb information when they were participating in distraction techniques away from their studies:

'I'm quite good at taking in ideas when I'm distracted, preparing my lunch, or painting my nails for example. I don't know whether it's because I'm relaxed, I'm under less pressure, but I only realised that towards the end.'

This illustrates metacognitive strategies where the student has developed an understanding of the environmental conditions under which they operate best to manage stress, an emotional response to cognitive demand.

#### **5.18.8 Exercise and Healthy Things**

A consistent theme for emotional coping was the use of exercise and healthy things, with twelve out of the twenty participants speaking about either going to

the gym, or undertaking in activities, such as running, or walking, if they felt the need to alleviate negative emotion:

'If it's building up, I will go to the gym.'

'I used to go running, just for general like stress.'

'During my dissertation, I went for quite a lot of walks and that helped to like have a change of scene.'

On helping with anxiety and nervousness, three of the learners spoke frequently about using mindfulness and breathing techniques, and a couple of students were participating in meditation and yoga. For example, one postgraduate student, relatively new to the mindfulness techniques, in hindsight, explained how she would now use this approach to help for feeling calmer with exams:

'If I looked at it now having practised more mindfulness, I would have probably visualised it and got more comfortable.'

One learner always very anxious in the run up to exams, found that cycling to the exam hall would help to reduce the nervous energy and would enable her to focus better on the paper in the exam:

'I cycled there to get rid of the extra adrenaline so that I could focus better when I got there.'

Rescue remedy for dealing with traumatic and stressful situations was also being used by one learner, to help to deal with the experience of the exam, whilst another learner would listen to Zen music and would do Om chanting when studying, as she found it soothing as it helped to calm her.

#### **5.18.9 Mental Resilience, Persistence and Determination**

Applying hard work, developing mental toughness by reading self-help books to cultivate the right mental attitude was also being used by two of the participants:

'Hard work always solves problems. Mental toughness is... I've got a few books on it at home, like it's, if you can cultivate the right mental attitude you can overcome a lot of problems.'

Thus, four of the twenty students spoke about having to instil a strong work ethic; perseverance; and being driven to cope both cognitively and emotionally. This was often fostered out of a need of wanting to prove others wrong, and wanting to prove to self and to others that it could be done:

'I always wanted to prove that I was able to get into the Schools I needed to, I could get the grades I wanted to, which is probably why I did Science, rather than Art, because Art was probably the less challenging for my intellect than Science is.'

'It makes me work a lot harder, because I know that if I don't, it could all go wrong. I think it's given me a sense of perseverance, and it's also made me realise, I've got to do it and I've got no excuses.'

'I think the fact that it makes me work that much harder to find things out is a real bonus. It's made me a really driven and resilient person.'

'I think I work harder, because I've always known I need to work harder, whereas I think the girls around me, like for instance, the girls in my flat, no one worked as hard as I did, now, they all passed. I think it's probably helped me just be, I'm not going to use the word stubborn, but more driven.'

Consequently, it was clear that participants had got to an advanced stage in their education and academic careers due to having developed persistence and routinely having to try and try again. Two postgraduate students spoke about this,

one in relation to overcoming his difficulty with spelling and one in relation to helping to overcome tiredness during writing:

'I would have a go at doing it, I'd write it down, if that doesn't look right then try again and I would just have a go and I think it's a case of well something is better than nothing, or I will try and spell it phonetically, I will try and spell it how I think it should be spelt, because I will try and sound it out, I will try anything to try, that won't stop me from trying.'

'If I'm getting to the point where I'm really tired, I usually just stop, and I will try again tomorrow.'

#### **5.18.10 Talking to Someone**

A consistent theme for coping emotionally which seventeen out of the twenty participants spoke of was to talk to someone:

'I always felt talking with somebody about it always relieved some of the stress because it allowed you to think about the issue.'

Some students relied on their mums to be the recipient of the negative emotion and to help to put things into perspective for them:

'I'd probably just have to go to my mum and cry about it, and she'll be like 'why are you upset? Don't worry, you're doing a master's at Kings, it's okay, you're just over stressing.'

Another postgraduate learner who had experienced high levels of stress and anxiety during her undergraduate years, spoke about how having children and a family and returning to study some years later as a part-time student had helped to reduce her negative emotions as it was now her family and family support network that provided the relief and acted as the prevention to the anxiety she had originally experienced during her undergraduate studies.

'I'm much better now, I'm a part-time student, and I also have a great family to instruct me, that works very well, I can recommend it to everybody.'

Some learners who wanted to use talking as their outlet and mechanism for emotional coping, however, found that there was a barrier to this, as they felt that their universities weren't necessarily providing the opportunities for talking to take place:

'In my mind is to talk about it, and that's something that's incredibly limited at university, because it's very rare to find a Lecturer who will be willing to give you time to talk about it.'

#### 5.18.11 Summary of Key Themes for Emotional Coping

*Table 5:8 - The Emotional Coping Strategies Used to Help to Reduce Negative Emotion:*

<b>Emotional Coping Strategies used to Reduce Negative Emotion</b>	<b>No of Participants out of 20 Using the Strategy</b>
Talking to someone	17
Getting stressed, worried, crying and anger	14
Planning and using strategies	13
Exercise and healthy things	12
Avoidant strategies	8
Panicking and freezing	6
Implementing breaks	6
Seeking comfort	4

Mental resilience, persistence and determination	4
Withdrawing from social interaction	2

By far the most consistent strategy for alleviating negative emotion was talking to someone which seventeen out of the twenty participants used. This was closely followed by the more counter-productive strategy of getting stressed, crying and anger which fourteen of the twenty participants spoke about. The least used strategy was withdrawing from social interaction which two out of the twenty participants spoke of, and which is consistent with the findings on social anxiety in the quantitative study of this thesis.

### **5.19 Conclusion**

This chapter has presented the main findings from the survey used to investigate my research hypothesis: 'adult dyslexic learners in higher education have a higher prevalence of academic and social anxiety than their non-dyslexic peers'. The quantitative study therefore confirmed the findings from the Riddick et al., (1999) and Carroll & Illes (2006) studies by identifying that there are higher levels of academic anxiety in the dyslexic sample as compared to the non-dyslexic sample. This chapter also presented the findings from the research question 'what are the emotional consequences of studying with dyslexia, and how do adults with a diagnosis of dyslexia cope both cognitively and emotionally within an academic context?' which was addressed in the qualitative study. Thus, other types of emotional responses in addition to anxiety, such as frustration, hate, stress, and panic associated with study tasks for dyslexic students have been reported. The chapter also specified key themes on coping mechanisms used to deal with academic work, both in terms of cognitive coping strategies and emotional coping

strategies to address negative emotional consequences, and it was revealed that cognitive coping far outweighs emotional coping for the sample.

## ***Chapter 6: Discussion Chapter***

### **6.1 Introduction**

This chapter reflects upon and interprets the findings for the research hypothesis and research questions and relates the findings to theories around anxiety and coping presented in the conceptual framework chapter. This chapter also discusses some limitations of the study. I then provide the conclusion to the study by summarising the main research findings; I outline the contribution that the study has made to the field of adult dyslexia; and the implications of this for practice, and I consider areas for further research.

The purpose of this mixed method two-stage study was firstly, to confirm the prevalence of academic and social anxiety in a dyslexic compared to non-dyslexic sample with the quantitative study, and secondly, to shape an understanding of the relationship between dyslexia and negative emotional consequences (such as anxiety) and coping, for the adult dyslexic learner in higher education in the qualitative study. The hypothesis and following research question for these areas of concern were:

- Adult dyslexic learners in higher education have a higher prevalence of academic and social anxiety than their non-dyslexic peers.
- What are the emotional consequences of studying with dyslexia, and how do adults with a diagnosis of dyslexia cope both cognitively and emotionally within an academic context?

Answers and new knowledge in relation to the above hypothesis and research question were achieved and generated through, firstly, identifying the pervasiveness of academic anxiety levels in a large sample of dyslexic university students (N = 102) compared to a comparison group of non-dyslexic university students (N = 72) in the first stage of the study. The second stage, through exploring more in-depth than the first stage, with twenty individual qualitative

interviews, revealed the emotional effects of undertaking various academic tasks at degree and postgraduate degree level and pinpointed ways in which dyslexic students are coping both cognitively and emotionally.

Thus, in response to the hypothesis 'adult dyslexic learners in higher education have a higher prevalence of academic and social anxiety than their non-dyslexic peers', findings confirmed that dyslexic students are on average more anxious about academic matters than their non-dyslexic peers. This is consistent with results from the literature focusing on identifying the extent of comorbidities between dyslexia and internalising disorders in adulthood (Ghisi et al., 2016; Jordan et al., 2014; Nelson et al., 2015). Furthermore, findings corroborated results from both the Riddick et al., (1999) and the Carroll & Illes (2006) small-scale studies in confirming that a statistically significant difference between the dyslexic and non-dyslexic sample for academic anxiety exists. However, unlike the Carroll & Illes (2006) study, yet consistent with the Riddick et al., (1999) study, this present study did not find a significant difference for levels of social anxiety between the dyslexic and non-dyslexic samples. This finding supports the assumption that high functioning dyslexic adults can compensate socially for areas of academic weaknesses in relation to their difficulties with written language:

'I think a lot of people with dyslexia are very good communicators verbally, because they know they can't do it written. They just interact a lot better than people who have nothing.'

An explanation for the differences in the findings for this study in relation to social anxiety and the Carroll & Illes (2006) study would be differences associated with the younger age of the dyslexic sample used in the Carroll and Illes study compared to the dyslexic sample used for this research. For instance, Carroll and Illes's dyslexic sample (N = 16) were all undergraduate students with younger ages ranging from 19 years to 24, whereas out of the 102 dyslexic students in this study, 34 were at postgraduate level and ages for the sample ranged from

18-64. This possible reason for the difference in the findings was tested in this study with separate t tests for social anxiety for both the undergraduate and postgraduate groups (please refer to section 5.3.2 Graduate Status in the Findings Chapter) and no significant difference was found between the dyslexic and non-dyslexic samples in relation to social anxiety for either the undergraduates and the postgraduates. Thus, the data does not support the theory that younger, lesser experienced dyslexic students will be more socially anxious than their non-dyslexic peers. This finding was also consistent with the Riddick et al., (1999) study who on the social and personal subscales of the Culture-free Self-esteem Inventory (Battle, 1992) also found no significant difference between the two groups.

In response to the research question, 'what are the emotional consequences of studying with dyslexia, and how do adults with a diagnosis of dyslexia cope both cognitively and emotionally within an academic context?' consistent with the findings of the quantitative study, the qualitative study revealed that dyslexic students experience more negative emotions, such as frustration; hate; anxiety; and stress than positive emotions. These are particularly in relation to academic tasks, such as exams; deadlines; note taking in lectures; reading remembering information; spelling tasks; presentations; and seminar discussions. Nevertheless, interestingly, findings also showed that students had high levels of cognitive coping through: using specific cognitive techniques, which they had tailored to meet their learning needs; using assistive specialist technology; using multisensory approaches to learning; applying practical things to their learning; reducing scotopic sensitivity when reading; using favourite materials, such as stationary to make learning more enjoyable. However, in relation to coping emotionally, participants had a lot less to say with regards to individual techniques that they use. In fact, the question of 'how do you cope emotionally?' was frequently met with silence and ambivalence from interview participants.

However, discussions on emotional coping with participants, did still identify some coping methods which included: avoidance; getting stressed, worried and crying; using anger targeted at self, or others; panicking; withdrawing from social interaction; seeking comfort; planning and using organisation strategies; implementing breaks to maintain focus; participating in exercise and healthy things; developing mental resilience, such as persistence and determination.

Possible reasons why participants found it difficult to talk about emotional coping, could be twofold. Firstly, for students with dyslexia, the important issue is dealing with and overcoming the cognitive challenges of their dyslexia. Therefore, they understandably invest their energies into developing cognitive coping and may be unconscious of or neglect the more emotional wellbeing aspects of their academic lives. Secondly, emotional responses may not be considered as important to university students with dyslexia due to the emphasis from higher education institutions on academic success and achievement generally over a more therapeutic approach to learning. Therefore, for many students with dyslexia, the focus on developing strategies for what could be unacknowledged or negatively viewed as emotional weaknesses, may for the student be associated with a fear that they will be stigmatised and perceived as having mental health difficulties. However, as has been identified, not only in this study, but also in Carroll & Illes's (2006); Jordan et al., (2014); Nelson et al., (2015); and Riddick et al., (1999) studies, higher levels of anxiety in dyslexic students in higher education has been established when compared to groups of non-dyslexic students. However, as also questioned by Riddick et al., (1999) what is unclear is whether high academic anxiety is linked to dyslexic students' present performance and experiences whilst at university or is due to negative experiences in the past which continue to have an adverse effect on anxiety levels.

Furthermore, in line with research previously conducted on dyslexia, coping and academic coping (Alexander-Passe, 2006; Battistutta et al., 2018; Logan, 2009;

Riddick, 1996; Reiff et al., 1997), this study has now extended and contributed to this work by providing findings from a larger scale study on the coping mechanisms of adult dyslexic students, which now adds to evidence on coping strategies of children and adolescents with dyslexia (Alexander-Passe, 2006; Battistutta et al., 2016; Riddick, 1996) and coping techniques used by successful adults with dyslexia (Logan, 2009; Reiff et al., 1997).

## **6.2 How the Findings Relate to Theories of Anxiety**

This study was particularly concerned with looking at specific academic events, such as exams and assignment writing, to establish types of emotional reactions they elicited in students with dyslexia. In relation to the state-trait model of anxiety, the expectation was that students would have higher levels of state anxiety (the experience of fear, nervousness, and discomfort instigated *temporarily* by situations perceived as dangerous), than trait anxiety (referring to a more stable tendency to experience fear, worry and anxiety across many situations). However, from the findings, although it was evident that academic events such as exams, deadlines and note taking in lectures, do indeed cause state anxiety for participants, the findings from both the quantitative and qualitative studies indicate that participants are experiencing more than just *temporary* state anxiety. Respondents reported anxiety and distressed emotion occurring across all academic situations, which is more suggestive of trait anxiety. For example, when looking at a few of the statistically significant items on the survey, such as: 'I lack self-confidence in academic situations'  $p=.001$ ; 'I feel a failure academically in comparison to my peers'  $p=.001$ ; and 'I am often brought to tears when I think about my academic abilities'  $p=.001$ ; it implies that negative emotional consequences, such as underlying feelings of anxiety are pervasive across many circumstances for participants. This is further supported in the qualitative study with participants articulating their views on feeling a constant self-doubt and feelings of exhaustion through being anxious all the time:

'I would say a lot of self-doubt. I don't kind of really believe that I am able. I did consider myself stupid as a child.'

'The main thing is that it's exhausting, being anxious all the time.'

Thus, the anxiety is not confined to one individual situation for these participants and it is not always a *temporary* feeling of discomfort as suggested by the model of state anxiety. Instead it can be more demonstrative of trait anxiety with an underlying continuous stable tendency to experience worry and anxiety across many situations in academic environments.

Interestingly, the quantitative study found no significant difference for social anxiety between the dyslexic and non-dyslexic sample, as discussed above, although there were a few examples of evidence of social anxiety in the qualitative findings. For that reason, however, I will not be discussing the applicability of theories of performance and social anxiety for this particular sample, but will instead move onto theories that do appear appropriate for helping to explain the findings of this research and to some extent help to provide an explanation for the relationship between academic performance and anxiety in the dyslexic sample in this study. These theories are Ohman's (1993) information processing model of anxiety; Hadwin et al.'s, (2005) processing efficiency theory; and Skinner et al.'s, (2003) coping framework.

Ohman proposes that the significance of incoming stimuli, which, applied to an academic context, could be the prospect of a coming exam, or being asked to read aloud in class, becomes biased through emotion based on memory in the expectancy system. Memory then has an influential effect over the stimuli and sends this information to the conscious perception system, which in turn evaluates whether the stimulus should be perceived as threat. Consequently, the findings indicated that in some situations re-activation of memory of negative emotions,

such as the fear of feeling stupid, or ashamed, influenced the significance evaluators to perceive certain stimulus of information as threat. This was applicable in the way that some dyslexic students viewed certain learning situations, which were associated with the same learning situations that had made the student feel stupid during their younger lives. Consequently, this re-activation of the memory of feeling stupid helps to explain the theme of relief amongst learners connected to their dyslexia diagnosis. The diagnosis provides the student with a reason for their difficulties during school, but more importantly, enables the student to understand that mistakes they made during their younger years were not due to their lack of intelligence but were caused by their dyslexia. However, this feeling of inferiority placed into memory from earlier years, for some, does not dissipate. This is consistent with findings in the Riddick et al., (1999) study, who discovered that over half the dyslexic students in the study perceived themselves as having reading difficulties, with several students commenting on public situations such as having to read a handout in a seminar where they felt they should not be at university if they could not keep up with the pace of other students. Riddick et al., (1999) also commented that some students spoke openly about how negative recollections of their time at school still affected how they felt and performed in relation to various literacy tasks. This resonates in this current study with the comment from a participant below:

‘I think when I was younger, I probably used to read out loud in School, but I always used to mess up my words and go wrong and things like that, so I just kind of started to avoid it at all costs really’.

Thus, the Ohman processing model of anxiety (1993) explains why certain academic tasks are perceived as threat by some dyslexic students heightening feelings of anxiety when faced with the re-activation of situations already placed into memory as negative. Hadwin et al.’s, (2005) processing efficiency theory, helps to explain how higher levels of anxiety impede academic performance, particularly on tasks requiring adequate working memory which in a cyclical effect

increases anxiety levels further, and in turn having an even greater detrimental impact on tasks requiring working memory abilities. As discussed in the literature chapter, a cognitive deficit of dyslexia is weaknesses with working memory processes (BDA, 2007; Wiseheart et al., 2009). Thus, unlike the children used in the Hadwin et al., (2005) study who only had high levels of anxiety and no known diagnosis of dyslexia, dyslexic students may have the comorbidity of high anxiety teamed with deficits in working memory, with negative consequences for their performance on tasks requiring efficient working memory, such as exams and note-taking in lectures. This was expressed by one participant's eloquent description of the process:

'As soon as something is stressful, or I'm worrying about something, it will start to manifest (dyslexia) much more defiantly, whereas normally I can just bubble along, stress starts to impact, and it just affects retaining, processing information, relevance of information, writing information, processing, in just every way that dyslexia would affect me, it just seems to get ten times worse, and then I panic about that, and then it gets worse.'

Therefore, whilst traditional research on dyslexia has attributed poor academic performance to cognitive deficits associated with dyslexia (Bruck & Parke 1992; Lefly & Pennington 1991; Parrila et al. 2007; Smith-Spark & Fisk 2007; Smith-Spark et al., 2016; Wiseheart et al. 2009), the evidence from the findings of this study suggests that poor performance, particularly in situations involving working memory, is exacerbated by the symbiotic interaction between anxiety, working memory and dyslexia. However, in some instances, on the flip side of anxiety working to impede academic performance, anxiety also acted as a positive motivator. For instance, some participants had spoken about negative emotional consequences, such as worry being channelled positively to become a driver and a motivator to work harder:

'I think because I worry, I would have to sit and do it.'

Another aspect worth considering in relation to the findings, particularly when applied to evaluative situations, such as exams, is the theory of anxiety proposed by Abdollahi and Abu Talib (2015). Abdollahi and Abu Talib developed Carver and Scheier's (1984) and Eum and Rice's (2011) self-regulation model to argue that individuals with high levels of emotional intelligence and adaptive perfectionism in testing situations, will experience less anxiety than individuals with low emotional intelligence and maladaptive perfectionism (setting very high standards and being critical of self if they are not met). When this theory is applied to the findings, it is evidential that the sample for both the quantitative and qualitative study have high performance expectations, particularly when considering they have worked to obtain places at high ranking universities in the UK. Yet due to negative emotions indicated by the statistically significant survey item 'I feel a failure academically in comparison to my peers', conveying low levels of self-worth, and the qualitative comment 'I get angry if I don't remember what I've read,' showing self-blame when failing to meet standards; these are aspects that generate anxiety in exam conditions. Why this happens to dyslexic students' needs to be researched further. One explanation could be linked to Ohman's (1993) information processing model of anxiety, as discussed above, that negative experiences from school and childhood continue to impact on the student's ability to regulate emotional intelligence during academic situations. Another possible explanation for maladaptive perfectionism in the sample, followed by anger at self if standards are not met, could be due to the nature of dyslexia. For example, Grant's (2010) book *That's the way I think: Dyslexia, dyspraxia and ADHD explained* presents the profile of a dyslexic student after undertaking the Wechsler Adult Intelligence Scale (WAIS) psychological assessment. Grant argues that the profile is typical of the 'spiky WAIS profile recorded for many dyslexic, dyspraxic and ADHD individuals' (Grant, 2010, p.23) whereby 'scores for verbal and visual reasoning are much higher than scores for working memory and processing speed' (Grant, 2010, p.23). It may, therefore, be the case that a student's ability in

verbal and visual reasoning enables them to believe they have the potential to achieve academically, yet this is continuously undermined by weaknesses in certain areas of cognitive functioning, such as processing, working memory, or phonological skill. Thus, the student sets the high standard knowing they can meet it, and if they constantly fail to do so due to the underlying cognitive deficit, this incites the anger, self-blame, worry, frustration. Consequently, these negative emotions increase the levels of anxiety experienced by the dyslexic student in situations like exams, because of the fear that working memory and processing speed difficulties will impact and interfere with exam performance.

However, in some instances, on the flip side of anxiety, negative emotional consequences, such as worry were being channelled positively to become a driver and a motivator to work harder:

‘I think because I worry, I would have to sit and do it.’

In the next section, I discuss the ways in which the Skinner et al., (2003) families of coping in Table 6.1 below applies to the findings of the study. Out of the 13 families of coping conceptualised by Skinner et al., (2003), I have selectively applied only the coping categories that have predominantly been used by the participants. For a full evaluation of Skinner et al.’s, (2003) conceptualisation of the framework, please refer to section 3.8 in Chapter 3.

### **6.3 How the Findings Relate to Skinner et al.’s., (2003) Coping Framework**

*Table 6:1 - Skinner et al.’s., Theoretical Framework for Coping (2003)*

Problem Solving	Seeking Support:	Escape-Avoidance:	Distraction:	Cognitive Restructuring:	Rumination:	Helplessness:
Instrumental action.	Parents.	Cognitive avoidance.	Hobbies.	Focus on the positive.	Intrusive thoughts.	Giving up.
Strategizing.	Spouses.	Avoidant actions.	Exercise.	Positive thinking.	Negative thinking.	Passivity.
Problem solving.	Peers.	Denial.	Watching TV.	Optimism.	Catastrophising.	Confusion.
Planning.	Professionals.	Wishful thinking.	Seeing friends.	Minimisation of distress.	Anxiety amplification.	Cognitive interference.

Logical analysis.	God.		Reading.		Self-blame.	Exhaustion.
Effort.	Goals in going to people:				Fear.	Dejection.
Persistence.	Instrumental help.					Pessimism.
Determination.	Advice.					
	Comfort.					
	Contact.					

Social Withdrawal:	Emotion Regulation:	Information Seeking:	Negotiation:	Opposition:	Delegation:
Social isolation.	Self-encouragement.	Attempts to learn more about a stressful situation or condition.	Priority setting.	Projection.	Dependency.
Avoiding others.	Comforting.	Looking for strategies for intervention and remediation.	Proposing a compromise.	Reactance.	Maladaptive help seeking.
Concealment.	Emotional control.		Persuasion.	Anger.	Complaining.
Stoicism.	Relaxation.		Reducing demands.	Aggression.	Whining.
Emotional withdrawal.	Emotional expression.		Trade-offs.	Discharge.	Self-pity.
			Deal-making.	Venting.	
				Blaming of others.	

### 6.3.1 Problem Solving – Referred to by Skinner et al., (2003) as 'good news' ways of coping

When applied to the findings on coping techniques used by the participants in the study; most of the coping discussed was associated with the constructive higher order coping category of **problem solving** in the coping framework above. For example, students were using problem solving in the form of strategizing to devise their own unique cognitive techniques suitable for their learning styles and for overcoming types of cognitive weaknesses in their learning (please refer to the summary table in Appendix L for a list of strategies used by participants). It was also indicative in the findings that students were undertaking instrumental action under the higher order category of problem solving in the form of utilising specialist technology for learning; undertaking multi-sensory ways of learning;

through applying practical things to support learning more effectively, such as applying highlighters to visually mark out important sections of text; and by reducing scotopic sensitivity through the instrumental action of using yellow paper and coloured glasses to relive visual tracking difficulties, colour sensitivity to text and perceptual processing disorders. The lower order technique of planning categorised under problem solving was also being used quite extensively by participants in relation to timetabling, using diaries to plan work and using to-do-lists and calendars. In fact, the problem-solving lower order technique of *planning* was used not only for helping cognitively, but it was evidential that this category was helping to alleviate the negative emotions of anxiety, stress, being disorganised and angry:

'When I was younger, I was completely disorganised and angry at everything, I thought I was stupid and I was a pretty angry child because of everything, but once I started to organise things, it calmed down a bit because I was able to focus, and my focus was to make sure that everything was organised and then everything did have a place, and it was a bit more logical.'

Consequently, as previously discussed in the findings, a connection was established between the coping technique of *planning* assumed as being a more cognitive category, as also influencing the alleviation of negative emotional consequences for participants:

'I think I have to be organised in my brain'.

### **6.3.2 Seeking Support – Referred to by Skinner et al., (2003) as one of the most common families of coping, present in 88 of the coping systems reviewed**

From the findings therefore, it is indicative that in most coping examples provided by the participants; they are using an amalgamation of higher order and lower order categories of *problem-solving* to deal with challenges. Accordingly, each

coping category is never being used independently and in isolation but is always applied in synthesis with other forms of coping to tackle problems. For example, *instrumental action* and other problem-solving lower order categories were regularly being used in fusion with **seeking support** either from parents, peers or professionals, as in the case below whereby the student takes *instrumental action* through rehearsing presentations to get the timing correct, together with seeking support from mum:

'I make sure that it is to the time limit, so I will practice it with my mum, and she will time me, and then I will cut it if it needs to be shorter.'

### **6.3.3 Cognitive Restructuring – Referring to active attempts to change one's view of a stressful situation to see it in a more positive light**

The problem-solving lower order category of *planning* was being used effectively in conjunction with **cognitive restructuring** to minimise distress. This shows that in some instances, the relationship between cognitive coping can help to overcome negative emotions, such as anxiety and stress and vice versa emotional coping, such as fostering mental resilience, persistence and determination can help in dealing with overcoming cognitive challenges, evidence by the participants who spoke about having had instilled a hard work ethic and a persevering approach to their work due to their diagnosis of dyslexia:

'It makes me work a lot harder, because I know that if I don't, it could all go wrong. I think it's given me a sense of perseverance, and it's also made me realise, I've got to do it and I've got no excuses.'

**6.3.4 Emotion Regulation – Refers to active attempts to influence emotional distress and to constructively express emotions at the appropriate time and place**

Some participants were using crying an *emotional expression* as a cathartic emotional release from distress after which they could then start again afresh the following day:

'Cry myself to sleep, and then the next day, I'll be fine. It's just an emotional release, like just get rid of it all and then just start again the next day.'

**6.3.5 Negotiation – Refers to active attempts to work out a compromise between the priorities of the individual and the constraints of the situation**

Time and the amount of time required by participants to undertake work was a major concern to students and it was apparent that Skinner et al.'s, (2003) category of *negotiation* and the lower order category of *reducing demands* in the form of constraints with time was being used by participants. For example, students would begin their assignments right at the start of the allocated time frame for submission of work to reduce the stress of having too much to deal with cognitively if work was left to do within a few days of hand-in dates:

'From day one, I would never leave it, actually my peers at Uni, they always say 'oh, don't be so stressed Caroline, you've got plenty of time' and it irritated the shit out of me, because I was like 'no, you might think so, but I don't work like this,' I need to start, and a lot of them laugh at me.'

Additionally, students were also utilising exam concessions, such as the allocation of extra time during exams, to reduce the pressures of being required to complete papers within the expected time frames allocated for students with no known learning difficulties.

## 6.4 Critique of Skinner et al.'s., (2003) Coping Framework when Applied to the Findings

As articulated by Skinner et al., (2003) drawing upon the work of Pearlin and Schooler (1978), a fundamental difficulty in identifying core categories of coping, is that coping is not a unidimensional behaviour. 'It functions at a number of levels and is attained in a plethora of behaviours, cognitions, and perceptions' (Pearlin and Schooler, 1978, p.7-8). Thus, Skinner et al., (2003) have attempted to group lower order categories, such as *instrumental action*, *strategizing* and *problem solving* under the family of **Problem Solving** as if all lower order categories serve the same set of functions, i.e. to basically *problem solve*. However, functions are heterogeneous and can serve many purposes. For example, is a dyslexic student watching TV under the higher order category of **Distraction** for avoidance, for cognitive restructuring, for social isolation, or for comfort, etc.? In other words, with respect to function, how do we know what the individual's goals are by the activity of the coping category they are utilising? For example, in the quote below the student explains the technique used during presentations:

'I will read it out loud, and I will put little slashes, little like forward slashes in pencil on my script, so if I do panic and start to talk too fast, I can see from the slashes where I can pause and breathe and then restart.'

When applying Skinner et al.'s., (2003) coping framework to define this particular coping example; we may say the student is using *instrumental action* to **Problem Solve** the difficulty of presentations. However, the individual goals of the student in performing the presentation in this way may not match with the assumption of the coping theorist in that they are *problem solving*. Instead the function of the form of coping they are using may serve many purposes for the individual, such as *minimisation of distress*, *emotional control*, etc., other than being intended as a technique for *problem solving*. A further example of this ambiguity over

functions of coping applies to the technique of *implementing breaks* which was spoken about by participants as a useful method for maintaining focus and to relax the mind when cognitively the brain became overwhelmed which prevented the absorption of any further information. Thus, the appropriate strategy from the Skinner et al., (2003) framework would be ***cognitive restructuring*** and *minimisation of distress*. Yet, this technique could easily, mistakenly be described as the more negative approach of ***escape-avoidance***; *cognitive avoidance* and *avoidant actions*. This demonstrates that coping theorists and theories when subjectively applied to understand an individuals' efforts to tolerate or minimise the effect of stress, may actually easily misinterpret that particular individual's purpose in using the form of coping that they have adopted. From this perspective, ways of coping cannot be categorised simply by examining the coping responses themselves. Further information is needed about the individual's goals. Consequently, there are numerous examples in the findings like this whereby it is ambiguous with regards to which functions the coping method serves for the individual.

Additionally, in Skinner et al.'s, (2003) conceptualisation of lower order and higher order categories of coping some coping categories of importance to this sample are missing from the coping framework and are overlooked. For example, under the higher order category of ***distraction***, the list of lower order categories appears restrictive. Although *exercise* was listed by Skinner et al., (2003) as one of the lower order techniques and was regularly mentioned by participants as a coping method, the sample were in fact doing numerous other things as forms of distraction from the stressor, such as listening to Zen music, doing breathing techniques and using rescue remedy. However, ***distraction*** strategies for Skinner et al., (2003) are confined to: *hobbies*; *exercise*; *watching TV*; *seeing friends*; and *reading*. There are countless forms of distraction techniques to redirect the mind

from negative emotions, so prioritising and specifying a few in a prescriptive, rather than an open-ended list appears limiting.

Finally, in the Skinner et al., (2003) coping framework, **delegation** has been characterised negatively as *dependency; maladaptive help seeking; complaining; whining; and self-pity*. Yet, in the dyslexia literature and the study by Logan (2009) which focused on the coping techniques used by successful entrepreneurial adults with dyslexia, *delegation* was viewed as a positive coping method used by dyslexic entrepreneurs in order to develop and grow their businesses: 'having learnt at an early age to trust others with tasks the dyslexic entrepreneur may find it easier to delegate leaving more time to focus on growing the business'. (Logan, 2009, p.342). Consequently, Skinner et al.'s, conceptualisation of *delegation* would need to be re-theorised to be applicable to how a dyslexic sample use the coping technique of delegation.

### **6.5 Limitations of Theories when Applied to the Findings from an Adult Dyslexic Student Sample**

Whilst Ohman's (1993) information processing model of anxiety; Hadwin et al.'s, (2005) processing efficiency theory; and Abdullah and Abu Talib's (2015) emotional intelligence and maladaptive perfectionism theory, help to provide an understanding of possible explanations for adult dyslexic student anxiety, these models however, still do not fully describe the relationship between academic performance and anxiety specifically for people with cognitive learning difficulties as in the case of the dyslexic sample in this study. What is called for therefore, is a theory of academic anxiety that takes account of challenges and pressures prevalent for students with learning difficulties that can help to explain the interaction between the demands made by academic tasks, such as exams, notetaking and presentations for students with cognitive deficits like weaknesses in working memory functioning, information processing difficulties and phonological problems and the consequential anxiety that these types of academic

tasks then generate for these learners. This theoretical understanding will not only help to illuminate the essence of adult student anxiety within the academic environment, but also helps academic professionals and dyslexia specialist tutors to understand the extent that the combination of anxiety and cognitive difficulties undermines and interferes with academic performance.

Additionally, a coping framework now needs to be developed based on obtaining further information with regards to functions that the coping serves and the individual goals of dyslexic student's in terms of their purpose for using specific coping methods. This study has looked at the 'what do you do to cope,'? it now needs to look at the 'why'?

## **6.6 Additional Points of Interest**

From the findings, it is evident that the relationship between cognitive coping and emotion coping frequently serves two functions. For example, making a plan not only helps cognitively, but also calms negative emotion. These categories should therefore not be regarded as mutually exclusive.

Additionally, as discussed previously in the literature review, existing studies that have informed the evidence base for dyslexic difficulties (Boada & Pennington, 2006; Bradley & Bryant, 1978; McDougall, Hulme, et al., 1994; Snowling, et al., 2003; Snowling, et al., 1988) have predominantly focused on dyslexia and its association with phonology and reading difficulties. However, the findings from this study show that although for some students' literacy skills can still be a problematic area, the nature of adulthood dyslexia within an academic context may be increasingly associated with difficulties with processing auditory and perceptual information and impediments in working memory processes than it is with difficulties associated with literacy and reading skills when students are exposed to situations that make demands on these processing skills:

'I would have said up until my experience a couple of months ago, (referring to placement in a hospital environment) it's always been the literacy side, I would now say that I've probably got strategies to deal with the literacy side and its more information processing that's now become an issue.'

In this study therefore, adulthood dyslexia for the university student was more connected to processing difficulties. Consequently, findings are consistent with McLoughlin, Leather and Stringer (2002) who argued that studies focusing on literacy and phonology difficulties associated with dyslexia failed 'to provide a complete picture' of specifically adult dyslexia.

The findings of this study have also provided evidence to suggest that in order to fully comprehend the effects of dyslexia on the adult student, it is necessary to not only understand the nature of the cognitive difficulties that the particular student is experiencing, but it is essential for dyslexia practitioners to acknowledge the symbiotic relationship between dyslexia and negative emotional consequences for the adult learner. Thus, the dyslexia tutor is required to provide appropriate interventions for dealing with **both** cognitive and emotional difficulties through the utilisation of an equilibrium approach, and in some cases, dependent on the student, giving prominence to the emotional to begin to help with the cognitive.

## **6.7 Limitations of Work in the Thesis**

Despite the studies contribution to an understanding of adult student dyslexia and its association with anxiety and coping; the participants for both the quantitative and qualitative studies are relatively high functioning dyslexic individuals as they are attending eminently ranked universities with many of the degree courses requiring the student to meet top A level grading entry criteria. Thus, therefore a limitation is that questions may be raised in relation to how generalisable the results are for a more diverse adult student population. Additionally, a matched-

pairs design was not carried out for the survey study and students with dyslexia were not matched with students without dyslexia on subject studied, age, graduate status. This may have implications for the findings of the quantitative study in the thesis. Furthermore, the choice of the convenience sampling method to recruit both the dyslexic participants and the comparison group for the quantitative study and the dyslexic participants for the qualitative interviews, could also be considered as limiting, as people who agree to take part in a study may perhaps differ from those who decide not to participate (Robson, 2011). Subsequently, it remains questionable as to whether students that did not volunteer to take part in the study would have produced a different set of findings.

### **6.8 Summary of Main Research Findings**

To start with, as discussed in the literature review chapter, adult student dyslexia has been investigated from the aspects of adequacy of provision delivered by higher education institutions; and identification of cognitive deficits of dyslexic students. The emotional side of dyslexia within an academic context and the personal perspectives of students with dyslexia in relation to emotional consequences of studying and ways of coping cognitively and emotionally, has however, been given little attention. This study therefore fulfilled this gap in the literature and investigated the prevalence of anxiety and its association with dyslexia in the adult student population compared to a non-dyslexic comparison group to identify differences between the two in the quantitative research. Whilst the qualitative interviews, as the second-stage of the research explored, in a deeper level than the quantitative study, emotional reactions to undertaking specific study tasks and brought to light ways that participants said that they coped cognitively and emotionally with dyslexia.

To summarise the findings, the results suggested that adult dyslexic students have a higher prevalence of academic anxiety than their non-dyslexic peers yet have no differences from the non-dyslexic peers in relation to social anxiety. The

research also indicated that dyslexic students have a combination of positive and negative emotional responses to study tasks, however, negative emotions outweigh and are more frequently reported than positive emotion. Negative emotions were associated with tasks involving use of working memory and processing skills, such as exams and note taking in lectures and tasks involving working to time constraints, such as meeting deadlines. Additionally, dyslexic students discussed a range of cognitive strategies that they used to cope with academic tasks, nevertheless, they had a lot less to say and appeared to have far fewer productive coping strategies to deal with negative emotional issues.

### **6.9 Contribution**

The research has extended and validated the results of the Riddick et al., (1999) and the Carroll & Illes (2006) studies through confirming, with a much larger sample size than previously used, that adult students with dyslexia do have higher levels of academic anxiety than their non-dyslexic peers. Additionally, as discussed in the literature review, research on dyslexia and emotional consequences has focused on the connection between dyslexia and externalising and internalising emotional difficulties in children and adolescents within school. This study has enriched the field of research on the association between dyslexia and emotional difficulties through looking at this from the dyslexic adult student perspective.

### **6.10 Implications for Professional Practice**

The results of the study have shown that dyslexic students may be vulnerable to anxiety and stress in association with studying at university in general, and / or in connection with specific study tasks. The study therefore indicates for the dyslexia practitioner, the importance, of not solely focusing on the development of cognitive strategies in supporting students with dyslexia. Although not all students with dyslexia will experience anxiety, it is still important for the dyslexia

practitioner to have an understanding of an individual student's emotional difficulties in conjunction with their studies. The dyslexia tutor should work with the individual student on helping them to identify triggers and potential triggers for their anxiety and should be able to help the student to manage and to cope with the more negative emotional consequences of studying with dyslexia.

Consequently, through the process of conducting this research and making my discoveries, I have found that as a dyslexia study skills support tutor, my practice has evolved and developed. For example, originally, I had a more predominant focus on tailoring support centred on delivering cognitive strategies. Whilst this approach is still useful; as seen from the findings, some cognitive strategies, such as time management and organisation do relieve anxiety and stress. My current support style, however, now involves a combination of targeted emotional support through elicitation with students to encourage open discussions on academic areas where they feel sensitive emotionally. This discussion also allows the student to reflect on potential triggers of anxiety and to think of ways for managing the negative emotion more effectively. Thus, the emotional support is then supplemented by the delivery and development of appropriate cognitive techniques to work on areas identified by the student as academically weak. As the results of both the quantitative and qualitative studies have shown, adult dyslexic students have a developed awareness of academic situations, such as reading aloud in front of the class and academic tasks, like exams that make them feel exposed to negative emotional reactions. The dyslexia practitioner should therefore, during early stages of working with the individual student, tap into an identification of those areas of vulnerability with the student to foster a deeper understanding of the student in terms of their potential support requirements. With new academic situations that the student experiences, for example study placements in different environments, this vulnerability is constantly wavering and evolving. The support tutor during these new situations should explore with the

student an identification of potential triggers for distress and should provide appropriate emotional and cognitive targeted support tailored to that individual's needs to help the student with managing the new unfamiliar challenge. Additionally, more emphasis on the emotional consequences of dyslexia needs to be implemented into training courses provided to qualify as a specialist dyslexia practitioner.

A positive aspect that came from the qualitative study was the range of cognitive, and to a lesser extent, emotional coping techniques that dyslexic students have developed through their educational journeys as their unique ways of overcoming their dyslexia difficulties. As a dyslexia practitioner, although aware that there is no magic recipe, or one size fits all type of coping strategy that can work uniformly for all dyslexic individuals, I am however, always on the search for cognitive and emotional coping strategies that I can trial out during my practice with individual students to see if they find them useful. As such, this research has enabled a gathering of various cognitive coping techniques, and some productive emotional techniques to be recorded and utilised during support sessions with students as suggested methods for the student to apply to their own studies. Furthermore, from professional experience of working with dyslexic students, these students often seem more interested in strategies other dyslexic students are applying to cope with their academic work than they are in advice from study skills books targeted towards dyslexia. Thus, as a practitioner, the research has placed me in the advantageous position of being able to share strategies with new dyslexic students, which has come from the experiences and voices of their own dyslexic peers.

### **6.11 Further Research**

There are several areas of future research which form natural extensions of this current work. Firstly, as identified in the literature review, the association of dyslexia and emotional difficulties has been researched in children and adolescents

within school, yet, limited work has looked at how this develops and presents into adulthood. Therefore, there is currently a lack of longitudinal studies on dyslexic learners and their emotional and coping experiences from school into university, particularly from their perspectives. Secondly, as briefly mentioned in the limitations section, a replication of the study in a different educational setting would be useful. This would enable a comparison with this study to identify whether there is still a prevalence of anxiety in dyslexia compared to a non-dyslexic comparison group in a different education environment, and to establish the nature of coping in a different setting. Thirdly, the study intentionally gave emphasis to the perspectives of the dyslexic individuals that participated in the research. However, a future research project could perhaps shed light on different aspects of dyslexia and its association with anxiety, negative emotional consequences and coping, which dyslexic individuals might have overlooked, by including the viewpoints of other people involved in the personal and scholarly lives of the dyslexic individual, such as parents, spouses, family members, friends, dyslexia practitioners, and mental health advisers. This type of further study could perhaps add an additional layer of understanding to our knowledge on dyslexia, anxiety and coping.

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## **Appendix A: Survey Used for IFS Study**

Demographics:

Name:

Date of Birth:

Age:

Gender:

Occupation:

Course of Study:

General Warm-up Questions:

Are other members of your family known to be dyslexic?

When did you find out that you were dyslexic?

How does dyslexia affect you?

What do you enjoy about your studies?

What are the main reasons why you have chosen your course?

Below is a list of ways in which people cope with a wide variety of problems. Please indicate the things you do to deal with your concerns or worries by circling the appropriate number. Work down the page and circle 1, 2, 3, 4, or 5 as you come to each statement. There are no right or wrong answers.

	Doesn't apply or don't do it	Used very little	Used sometimes	Used often	Used a great deal
Play sport	1	2	3	4	5

	Doesn't apply or don't do it	Used very little	Used sometimes	Used often	Used a great deal
Talk to others and give each other support	1	2	3	4	5
Put effort into my work	1	2	3	4	5
Look on the bright side of things and think of all that is good	1	2	3	4	5
Develop a plan of action	1	2	3	4	5
Go to meetings which look at the problem	1	2	3	4	5
Blame myself	1	2	3	4	5
Don't let others know how I am feeling	1	2	3	4	5
Consciously 'block out' the problem	1	2	3	4	5
Ask a professional person for help	1	2	3	4	5
Worry about what will happen to me	1	2	3	4	5
Make time for leisure activities	1	2	3	4	5

List any *other* things you do to cope with your problems

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The next section of the survey focuses on how you rate your skill / ability in the following areas and whether you have any specific strategies to cope with each task. Please indicate how you rate your own skill / ability by circling the appropriate number. Work down the page and circle 1, 2, 3, 4, or 5 as you come to each statement. There are no right or wrong answers.

Confidence and Life Skills:

Ability / Skill	Very Poor	Poor	Average	Good	Very Good
Work on collaborative tasks as a member of a team.	1	2	3	4	5
Feel confident with your work	1	2	3	4	5
Create novel solutions to problems	1	2	3	4	5
Speak in front of others	1	2	3	4	5
Identify pros / cons when making difficult decisions	1	2	3	4	5
Plan in detail the steps and resources necessary to accomplish a major project	1	2	3	4	5
Control feelings of anxiety when dealing with other people	1	2	3	4	5

List and describe any *strategies* or *techniques* you use to manage any of the skills listed.

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Information Processing and Memory Skills:

Ability / Skill	Very Poor	Poor	Average	Good	Very Good
Remembering instructions / new information	1	2	3	4	5
Reading, e.g. papers, books you are asked to read by your tutors for your course and understanding what you have read	1	2	3	4	5
Remembering what you have read	1	2	3	4	5
Spelling	1	2	3	4	5
Remembering information for exams	1	2	3	4	5
Doing presentations	1	2	3	4	5

List and describe any *strategies* or *techniques* you use to manage any of the skills listed.

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Time Management: Organisation and Concentration Skills:

Ability / Skill	Very Poor	Poor	Average	Good	Very Good
Organising your work space	1	2	3	4	5
Being able to meet deadlines	1	2	3	4	5
Taking notes from lectures	1	2	3	4	5
Concentration	1	2	3	4	5

List and describe any *strategies* or *techniques* you use to manage any of the skills listed.

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Finally, what kinds of study skills strategies / techniques could be taught during your support sessions that would help you personally to cope more effectively at University (or would make it easier for you to do your studies)?

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Thank you for taking the time to complete this questionnaire.

## **Appendix B: The Survey Used in Survey Monkey**

[https://www.surveymonkey.com/summary/QdVjMcMxYsRvGPD\\_2BxQ7](https://www.surveymonkey.com/summary/QdVjMcMxYsRvGPD_2BxQ7)

[LKvWWggu\\_2FZuRir\\_2BGaFL1QU9k\\_3D](#)

Background Questions Asked as Part of the Survey and Number of Responses:

Question	Students With Dyslexia	Control Sample	All Responses
Do you have a diagnosis of dyslexia?	Yes: 102	No: 72	174
Have you received support from the Independent Dyslexia Consultancy?	Yes: 51 No: 50 Blank: 1	Yes: 1 No: 71	Yes: 52 No: 121 Blank: 1
What is your age?	18-24: 49 25-34: 43 35-44: 4 45-54: 6 55-64: 0 Over 65: 0	18-24: 48 25-34: 13 35-44: 5 45-54: 3 55-64: 2 Over 65: 1	18-24: 97 25-34: 56 35-44: 9 45-54: 9 55-64: 2 Over 65: 1
What is your gender?	Male: 26 Female: 75 Blank: 1	Male: 15 Female: 57 Blank:	Male: 41 Female: 132 Blank: 1
Graduate Status	Undergraduate: 68 Postgraduate: 34	Undergraduate: 42 Postgraduate: 30	Undergraduate: 110 Postgraduate: 64

Question	Students With Dyslexia	Control Sample	All Responses
Are any other members of your family known to be dyslexic? - Mother	Yes: 11 No: 91	Yes: 1 No: 71	Yes: 12 No: 162
Are any other members of your family known to be dyslexic? - Father	Yes: 9 No: 93	Yes: 1 No: 71	Yes: 10 No: 164
Are any other members of your family known to be dyslexic? - Brother or Sister	Yes: 27 No: 75	Yes: 6 No: 66	Yes: 33 No: 141
Are any other members of your family known to be dyslexic? - Child	Yes: 3 No: 99	Yes: 2 No: 70	Yes: 5 No: 169
Are any other members of your family known to be dyslexic? - Grandparent	Yes: 2 No: 100	Yes: 0 No: 72	Yes: 2 No: 172
Are any other members of your family known to be dyslexic? - Uncle or Aunt	Yes: 10 No: 92	Yes: 0 No: 72	Yes: 10 No: 164
Are any other members of your family known to be dyslexic? - Cousin	Yes: 19 No: 83	Yes: 1 No: 71	Yes: 20 No: 154

Question	Students With Dyslexia	Control Sample	All Responses
Are any other members of your family known to be dyslexic? - Don't know but suspect parent(s) may be	Yes: 30 No: 72	Yes: 2 No: 70	Yes: 32 No: 142
Are any other members of your family known to be dyslexic? - Don't know	Yes: 9 No: 93	Yes: 11 No: 61	Yes: 20 No: 154
Are any other members of your family known to be dyslexic? - None of the above	Yes: 18 No: 84	Yes: 51 No: 21	Yes: 69 No: 105
When did you find out you were dyslexic?	Not Dyslexic: 0 School: 34 College/sixth form: 9 University: 57 Work: 1 Other: 1	Not Dyslexic: 72	Not Dyslexic: 72 School: 34 College/sixth form: 9 University: 57 Work: 1 Other: 1

	Very like me	Partly True	Not like me
1. If I make an awkward social mistake, I can soon forget it.			

	Very like me	Partly True	Not like me
2. I have trouble sleeping when I know I have a lot of work to get done.			
3. I am confident and happy with my academic abilities.			
4. I feel socially inadequate compared with my friends.			
5. I have trouble relaxing when I know I have work to do.			
6. I feel secure in my friendships.			
7. I need my friends more than they need me.			
8. When exams are approaching, I often feel ill or suffer from a cold.			
9. I have a lot of friends.			
10. I am confident that I could help others if they are struggling with their work.			
11. I lack self-confidence in academic situations.			
12. I cannot make decisions about my work.			
13. I feel tense and easily upset when my academic abilities are questioned.			

	Very like me	Partly True	Not like me
14. I cannot concentrate on other tasks, or conversations, when I have lots of work to do.			
15. I doubt the honesty of those who are more friendly than they need to be.			
16. I am comfortable talking to strangers.			
17. Even when surrounded by others, I often feel lonely.			
18. I spend longer on my work than most people.			
19. I feel a failure academically, in comparison to my peers.			
20. I feel anxious when reading aloud in front of my class.			
21. I am jittery when meeting new people.			
22. I prefer spending time on my own than with others.			
23. I feel anxious when speaking in class.			
24. I am happy spending time in one-on-one situations.			
25. I am confident in front of a crowd of people.			

	Very like me	Partly True	Not like me
26. When about to enter an exam I feel ill / shaky.			
27. I always think very carefully before speaking.			
28. I feel lethargic when I have lots of work to get done.			
29. I constantly worry over mistakes I may make in social situations.			
30. I avoid having to socialise.			
31. I lose sleep when I know I have to meet a group of people I don't know very well the following day.			
32. I feel overly anxious when I have exams.			
33. I am a shy person.			
34. I feel my literature skills may let me down in exams.			
35. I find it hard to concentrate on what others are saying as I am so preoccupied with how I may come across.			
36. I feel I can face up to, and overcome, my academic weaknesses.			
37. I feel tense when walking into a crowded room.			

	Very like me	Partly True	Not like me
38.No matter how much work I have to do, I generally remain high spirited.			
39.I am often brought to tears when I think about my academic abilities.			
40.I often don't want to see anyone.			
41.I feel constantly under strain to achieve well, and perform better than I am capable.			
42.I am very reliant on others.			
43.I tremble when public speaking.			
44.I am almost brought to tears when thinking of my social abilities.			
45.When in the company of friends, I sometimes feel worthless.			
46.People don't have the time for me.			
47.I get angry with myself for taking so long over one piece of work.			
48.I try to fill my day with as many social events as possible.			

	Very like me	Partly True	Not like me
49. My work suffers if I am under pressure, and I work better if I have plenty of time.			
50. I often feel I let myself down in social situations.			
51. I feel tense and stressed when I have an essay to write.			
52. I am happy with my research skills.			
53. After handing in a piece of work, I feel able to relax.			
54. If I worry about my work, I usually calm down quickly again.			
55. I am relaxed in most social situations.			
56. I get frustrated when faced with a lot of reading.			
57. I can trust others easily.			
58. I feel I have no academic weaknesses.			
59. I feel no one understands me.			
60. I often feel stressed when deadlines are approaching.			

## **Appendix C: Information Sheet for Potential Participants**

### Information Sheet Potential Participants

Amanda Jones

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Re: - An Exploratory Study of the Voices of Adult Dyslexic Learners in Higher Education and their Experiences with Anxiety:

As part of the Doctor in Education programme at the Institute of Education, I will be conducting a research project that involves looking at students' different experiences with anxiety and with coping whilst studying at university.

I would like to invite you to be involved in the project. I very much hope that you would like to take part, but before you decide, it is important that you understand why the study is being done and what it will involve. This information sheet tells you about the work and I hope it will be useful.

Why is this work being done?

I am interested in the types of experiences that adult learners with dyslexia have with anxiety in the university environment. I am also interested in finding out about the coping strategies that are useful to deal with both university work in general and to deal with the anxiety. There is currently a wealth of published material on dyslexia during the school years, and whilst there is some work on university students with dyslexia, students experiences with anxiety and with coping strategies remains relatively under researched and undocumented. This study aims to address this gap.

What will happen if you choose to take part?

I will email you a link to a Survey Monkey questionnaire. The questionnaire will be used for the purpose of obtaining information on anxiety. It will ask you to respond to a set of statements by selecting from a choice of 3 different options how you generally feel in relation to each statement. For example, the options include; 'very like me'; 'partly true'; and 'not like me'.

The Questionnaire is Stage 1 of the project. Interviews will be Stage 2. If you would like to participate in an interview, could you please e-mail me with 'Yes, I would like to take part in an interview.

What will happen to the results of the project?

All information provided by participants will be kept strictly confidential and in the writing-up of the research participants will not be identified. The findings will enable a detailed account to be provided of the nature and causes of student anxiety and the coping strategies that are viewed to be effective and helpful techniques to deal with university work in general and also to deal with targeting the anxiety. I will be willing and available to give feedback on the results of the research.

## **Appendix D: Study Skills Checklist**

Study Skills Checklist				
Study Skill		Good	OK-ish	Needs Work
Lectures				
	Preparing for lectures			
	Note-taking in lectures			
	<b>Reviewing</b> notes from lecture/lecture content/ lecture audio			
	Making notes for study (from reading)			
Assignment writing				
	Understanding the assignment brief/question			
	Breaking the assignment down into sub-tasks			
	Getting your ideas down on paper and out of your head			

	Organising information/planning your assignment structure			
	Writing paragraphs and sentences			
	Writing introductions and conclusions			
	Writing concisely			
	Editing			
	Proof-reading			
	'signposting' (language which links information together) Ask me if you are not sure.			
	Showing critical thinking skills in your writing (ask me if you are not sure what this is).			
Research				
	Reading for study			
	Making notes from books/journals etc.			
	Using the library confidently			
	Using the web/library search engines for research			
	Finding journals and articles (also online)			
	Reading 'critically'			

Presentations				
	Speaking in public			
	Planning your presentation			
	Working in groups (if appropriate)			
Revision and exams				
	Understanding the question/working out what is being asked of you			
	Using exam access arrangements effectively			
	Revision techniques: <ul style="list-style-type: none"> <li>• Past papers</li> <li>• 'active' learning</li> <li>• Mnemonics and memory</li> <li>• Mind-maps and spidergrams</li> </ul>			
	Planning your answers in the exam			
	Planning your time in the exam			
	Planning your time for revision			

	Managing your stress			
Organising Paperwork and time				
	Organising lecture notes/folders/paperwork			
	Planning assignments in a realistic and well-paced time-frame			
	Organising workload			
	Meeting Deadlines			
	Arriving to appointments on time			
	Using a diary/planner/calendar/reminders (paper/mobile/computer) *Please circle those you use			
	Phone reminders			
	Planners			
Harvard Referencing				
	I have looked at my department's guidance on how they want to reference and know which style they would like me to use e.g. Harvard.			
Literacy skills				
	Spelling			

	Grammar			
	Punctuation			

## ***Appendix E: First Interview Guide***

Introduction:

An explanation on what the study 'an exploratory study of the voices of adult dyslexic learners in higher education and their experiences with anxiety' is about.

The cognitive aspects of dyslexia are currently supported during tutorial through providing strategies to deal with organisation, reading, essay writing, etc.

The emotional side is currently neglected, for example, students with tremendous academic potential refusing to do exams, due to the fear and anxiety associated with this.

That is why I am investigating that area.

Demographics:

Name:

Date of Birth:

Age:

Gender:

Course of Study:

Occupation:

General Warm-up Questions:

Are there other members of your family known to be dyslexic?

When did you find out that you were dyslexic?

How does dyslexia affect you?

What do you enjoy about your studies?

What are the main reasons why you have chosen your course?

University Experience:

The next section of the interview focuses on a list of academic situations / tasks that your University course normally requires you to do, such as exams, presentations, seminar discussions, essays, etc. I will go through each learning situation on the list and will ask you whether or not you have any type of emotional response to the task.

Do you, or do you not, have an emotional response to reading tasks?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to remembering what you have read?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to your spelling?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?

- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to undertaking exams?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to producing written work and writing essays?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to doing presentations?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to your organisation skills?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to meeting deadlines?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to taking notes in lectures?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to contributing to seminar discussions?

Prompts:

- Do you know why you feel that way?
- What do you find particularly challenging about the task?
- What do you do about it, i.e. do you have any strategies for coping with the task?
- Do you have any strategies for coping with the emotional response?

Are there any other learning tasks / situations at University that make you feel anxious?

Can you provide examples?

What kinds of techniques could be taught during your support sessions that would help you personally to cope more effectively with dealing with anxiety at University?

Questions Regarding Your Dyslexic Qualities:

What qualities or advantages do you think you have as a dyslexic student?

What qualities or talents and abilities do you have?

Final Question:

Is there anything else you would like to say on the topic?

## ***Appendix F: Second Interview Guide***

Demographics:

Name:

Date of Birth:

Age:

Gender:

Course of Study:

Occupation:

General Warm-up Questions:

Are there other members of your family known to be dyslexic?

When did you find out that you were dyslexic?

How does dyslexia affect you?

What do you enjoy about your studies?

What are the main reasons why you have chosen your course?

University Experience:

The next section of the interview focuses on a list of academic situations / tasks that your University course normally requires you to do, such as exams, presentations, seminar discussions, essays, etc. I will go through each learning situation on the list and will ask you whether or not you have had feelings of anxiety in relation to the task.

I will also ask whether you have any specific types of coping strategies or techniques that you use to deal with the anxiety and to cope with the task.

How do you feel about reading tasks?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about remembering what you have read?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about spelling?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about undertaking exams?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about producing written work and essays?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about doing presentations?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about your organisation skills?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about meeting deadlines?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about taking notes in lectures?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

How do you feel about contributing to seminar discussions?

Prompts:

- Do you know why you feel that way?
- Can you give any particular examples?
- How do you cope?
- What types of strategies do you use to cope with this?

Are there any other learning tasks / situations at University that make you feel anxious?

Can you provide examples?

What kinds of techniques could be taught during your support sessions that would help you personally to cope more effectively with dealing with anxiety at University?

Questions Regarding Your Dyslexic Qualities:

What qualities or advantages do you think you have as a dyslexic student?

What qualities or talents and abilities do you think you have?

Final Question:

Is there anything else you would like to say on the subject?

## ***Appendix G: Third Interview Guide***

An explanation on what the study 'an exploratory study of the voices of adult dyslexic learners in higher education and their experiences with anxiety' is about.

The cognitive aspects of dyslexia are currently supported during tutorial through providing strategies to deal with organisation, reading, essay writing, etc.

The emotional side is currently neglected, for example, students with tremendous academic potential refusing to do exams, due to the fear and anxiety associated with this.

That is why I am investigating that area.

Demographics:

Name:

Date of Birth:

Age:

Gender:

Course of Study:

Occupation:

General Warm-up Questions:

Are there other members of your family known to be dyslexic?

When did you find out that you were dyslexic?

How does dyslexia affect you?

What do you enjoy about your studies?

What are the main reasons why you have chosen your course?

1. Below is a Table listing Academic Tasks that you're Generally Required to do on Any Type of Academic Course with any of the tasks can you:

Explain the Emotion that you Instinctively Feel.

Explain the Reason for the Emotion

University Task	Emotion	Reason
Reading		
Remembering Information		
Spelling		
Exams		
Writing		
Presentations		
Organisation and Meeting Deadlines		
Taking Notes		
Seminar Discussions		

Additional Questions which May be Used:

2. Are there any other types of tasks or experiences at University that have made you feel either anxious, stressed, frustrated, angry, etc?
3. How do you feel if you struggle to meet your goals?

Examples.

4. Do you feel that your emotional feelings interfere with your academic performance?

Examples.

5. What emotions do you feel when you feel you are being either evaluated or judged on your academic performance?
6. What types of study activities do you feel positive about?
7. What do you do about the emotions that you feel in relation to your study tasks?
8. As a dyslexic person, would you say you have had to develop any particular types of characteristics, qualities, or emotions to help you to deal with your academic life?

## ***Appendix H: Example of Predetermined Coding Framework***

Main Themes:	• Emotion.	• Unexpected.
• Identification.	• Unexpected.	
• Unexpected.	• Challenges.	• Writing.
• Affects.	• Unexpected.	• Emotion.
• Unexpected.	• Strategies.	• Unexpected.
• Enjoyment.	• Unexpected.	• Challenges.
• Unexpected.	• Coping.	• Unexpected.
• Motivation.	• Unexpected	• Strategies.
• Unexpected.		• Unexpected.
	• Spelling.	• Coping.
	• Emotion.	• Unexpected.
• Reading Tasks.	• Unexpected.	
• Emotion.	• Challenges.	• Presentations.
• Unexpected.	• Unexpected.	• Emotion.
• Challenges.	• Strategies.	• Unexpected.
• Unexpected.	• Unexpected.	• Challenges.
• Strategies.	• Coping.	• Unexpected.
• Unexpected.	• Unexpected.	• Strategies.
• Cognitive		• Unexpected.
Coping.	• Exams.	• Coping.
• Unexpected.	• Emotion.	• Unexpected.
• Emotion	• Unexpected.	
Coping.	• Challenges.	• Organisation.
• Unexpected.	• Unexpected.	• Emotion.
	• Strategies.	• Unexpected.
	• Unexpected.	• Challenges.
• Remembering.	• Coping.	• Unexpected.

- Strategies.
- Unexpected.
- Coping.
- Unexpected.
- Deadlines.
- Emotion.
- Unexpected.
- Challenges.
- Unexpected.
- Strategies.
- Unexpected.
- Coping.
- Unexpected.
- Challenges.
- Unexpected.
- Note Taking.
- Emotion.
- Unexpected.
- Challenges.
- Unexpected.
- Strategies.
- Unexpected.
- Discussions.
- Emotion.
- Unexpected.
- Challenges.
- Unexpected.
- Strategies.
- Unexpected.
- Coping.
- Coping.
- Unexpected.
- Other.
- Unexpected.
- Examples.
- Unexpected.
- Techniques.
- Unexpected.
- Qualities.
- Unexpected.
- Additional.
- Unexpected.

## ***Appendix I: Sample of Transcripts***

### **6.12 Transcript 1**

#### **Demographics**

Name:

Date of Birth:

Age:

Gender:

Course of Study:

Occupation:

#### **General Warm-up Questions**

Are there other members of your family known to be dyslexic?

No

When did you find out that you were dyslexic?

I found out I was dyslexic in my first degree, so that must have been 2007 2006  
may be, so it was my first year at Uni so that must have been when I was 20  
maybe, 21 yeah borderline 20.

How does dyslexia affect you?

Erm, how do I think? It probably affects me in like social situations, such as like  
I hate reading in front of people. I hate people looking at my work because I feel  
embarrassed. Erm and I hate playing like word games and stuff. I don't know  
what you call it Jingo, Scrabble, I don't like playing that because I don't really  
know words and stuff.

What do you enjoy about your studies?

I enjoy like. I think the most thing I enjoy is looking after patients, I think and like, you know, giving them care inside. I like giving back to the community in some sense. And I enjoy doing exams. I know it's really weird, but I do enjoy it because it's more factual and you need to know your facts. So there and then, you can't really go into an exam not knowing them.

What are the main reasons why you have chosen your course?

Erm, oh because it's funded. That's one of the main reasons, because they funded you to do it. They give you a bursary, it's funded by the NHS. They give you a bursary and they cover your fees as well, tuition fees, erm, and then you get a maintenance loan, but they're scrapping that now. So your maintenance loan is basically for your food and utilities and bills and stuff. Your bursary is basically to cover, to cover your rent, if it covers your rent, it depends on whether you're an independent student or not. They're going to scrap it in 2017 because they're trying to save money and you shall have to pay, you will have to pay £26 an hour to the NHS to work for them, which is diabolical. So, you will come out with £50 g worth of debt to become a nurse that you will never pay off. I wouldn't take it up if I was paying for it.

### **University Experience**

The next section of the interview focuses on a list of academic situations / tasks that your University course normally requires you to do, such as exams, presentations, seminar discussions, essays, etc. I will go through each learning situation on the list and will ask you whether or not you have any type of emotional response to the task.

Do you, or do you not, have an emotional response to reading tasks?

Erm, do you mean in the sense of reading on my own, or out loud? I hate reading, I hate reading out loud, it makes me feel very anxious.

Prompts:

Do you know why you feel that way?

I think it's because of like getting and pronouncing the words wrong. I think I didn't used to like it when I was at school. We used to read out loud, you know, everyone, person would take a part of a character in a story and I didn't really like it then because I wouldn't know how to pronounce words. It might just be a simple word, so, that's what I just found.

What do you find particularly challenging about the task?

Yeah, so I just think, my reading age isn't that good apparently, like, my reading age isn't that good, it's quite low compared to my IQ apparently.

What do you do about it, i.e. do you have any strategies for coping with the task?

I try to read as much as I can online and stuff and I've heard of people, like famous people, they tend to because they were so worried about that certain thing, they read loads and loads just to pick up words. I think I do pick up, as I've got older, I do pick up more words and stuff and then how to say it properly.

Do you have any strategies for coping with the emotional response?

Erm, yeah I think in placement it's quite hard, for like the medications, it's quite hard to pronounce those medications, like certain things, like I don't know. Metaphormine, for example, so if I didn't understand how to pronounce it I would look it up online and you can put it into a system that pronounces it for you. So you can pick it up that way and learn how to pronounce it. Yeah, so I use those sorts of things sometimes. Here it, and then you can keep saying it again and again.

Do you, or do you not, have an emotional response to remembering what you have read?

Erm, no not really. I think I'm quite good with remembering things. I could tell you what happened like, especially in like a films and stuff

and books may be, yeah. So my memory is quite good. If someone showed me how to do something, I could show you how to do it. So like maybe once, you'd show me it and I'd pick it up. I hate it when people try to tell you how to do it. There's no point in telling me, you just have to show me.

Prompts:

Do you know why you feel that way?

What do you find particularly challenging about the task?

What do you do about it, i.e. do you have any strategies for coping with the task?

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to your spelling?

Erm, sometimes I feel anxious about spelling I think, sometimes.

Prompts:

Do you know why you feel that way?

Erm, yeah, just because, yeah, maybe in the past when people look at your work and stuff. I think I'm more anxious because of the sense that, erm, before I was dyslexic I knew there wasn't something right and therefore it made me more anxious because of obviously in the past I couldn't spell stuff.

What do you find particularly challenging about the task?

Erm, I don't know, probably just the condition I think. Like the spelling, someone might be able to hear their vowels and its missing terms and stuff. I think I can notice if I have spelt it wrong, but if someone tells a word say like,

supercalifragilisticexpialidocious, a word like that, I would, they would probably know how to listen for the, the letters and stuff in order, whereas I would hear it, my process is different. I can't always hear the different types of letters and stuff.

What do you do about it, i.e. do you have any strategies for coping with the task?

Yeah, I just look it up in the like dictionaries, I will look at erm, computer and just type in a word and sometimes it says do you mean this? and I can recognise it quite well.

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to undertaking exams?

I like exams. Erm, I always feel okay with exams, I don't feel like. I think I drive and I thrive on exams maybe. Because the fact is that as I've got older you need, especially with the nursing course, you need to know, like we do biology exams and I knew when I did that research methods. There's a thing like you either know it or you don't and you need to know it before you go into an exam and then I would forget it afterwards, but it's just that knowing, you need to know it and you're learning, you're constantly learning and you've got to practice and practice and practice. People go into an exam and they panic, that's what they do at the beginning, whereas for me I just, ooh! I can't wait, you know, to just get it over and done with. I like to look at the exams and how their mind works, you like look at your answers and see like oh they can't just be A A and A, they've got to be ABC, or BCD, or something like that.

Prompts:

Do you know why you feel that way?

What do you find particularly challenging about the task?

I think, I think with like Kings it's difficult because they try to trick you. Like they could put a single word to throw you out and you're like you can go back to it later and you oh, they mean this and you renew for they meant that. They're quite clever about that. You look, it's a way of looking at your answers, you can't just and you look at the patterns of the answers if that makes sense.

What do you do about it, i.e. do you have any strategies for coping with the task?

Erh, not really. I do like practice on cards and stuff. Erm, I think testing. I think when you test with all the people, like you learn as I say you learn from other people's mistakes in a sense. Like you might know something that the other person doesn't know, or vice versa and that's how you learn I think. Yeah, asking stuff, they might know, you might know the answer to one question that they don't know so it's quite good, you're bouncing off each other and that way you learn from their mistakes and they vice versa

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to producing written work and writing essays?

Yeah, I feel a bit anxious and like I think, for me like I know that it's my weakness and that my university is like, it thrives itself on academic essays and stuff and I don't think it's fair in a way, you know some people, there's not a balance, it's either like one exam every year and I would say from my results, I thrive and I

do well in exams compared to essays. Yeah, you can see like I got like 57, I got a 65, I got a 68 and all my essays, it's been like 45, 40, 47, 50, they're not like high, apart from the first year because they're a little bit more lenient aren't they?

Prompts:

Do you know why you feel that way?

Because, just because I know that I'm not going to get a high grade I think, you know, that's like disappointing. If you gave it, if you said to me, if you asked me like a question I would be able to tell you, like say if you said to me, like, what are the five rights to giving medication? I'd be able to tell you what they were, whereas with an essay you can't, I can't vocalise and write it down.

What do you find particularly challenging about the task?

Because, I don't know, I think it's just dyslexia, like you, like people say to me that I know what you want, what you are trying to say but it's not coming across like that. Like if you said it, if I said it to them they'd be, they'd say now I understand.

What do you do about it, i.e. do you have any strategies for coping with the task?

Erm, not really, I should really plan a lot better than I do but it's so hard to plan and like it takes time and.

Do you have any strategies for coping with the emotional response?

I just leave it till the last minute. I put it off, I avoid.

Do you, or do you not, have an emotional response to doing presentations?

Erm, yeah, I feel frustrated.

Prompts:

Do you know why you feel that way?

I don't know, I just think it's speaking in front of people. That's another thing like reading out loud is quite difficult. Erm, I had to do that a couple of times and it's annoying. I just find like sometimes if you're in a group situation, it doesn't work well, that's the problem. Erm, and I think the presentation is a bit too, I don't know it just feels like you're wasting your breath because it's like utter rubbish.

What do you find particularly challenging about the task?

Erm, I think when you're working with other people, I think that's a challenge. I'm more of a, just work on my own, I think that's, I don't know why that is but I find it more easy.

What do you do about it, i.e. do you have any strategies for coping with the task?

Erm, yeah, just doing like, just get involved and like do what you can I think. Well I think when you're with other people. I think the problem with groups is you can either have like people who think they're better than you. I think that's what I've had before, people like, you said that wrong a couple of times now. Oh, maybe you could have just said it a lot better. Especially if they're like doctors and they think they're up themselves.

Do you have any strategies for coping with the emotional response?

Yeah, just like listen to music and just like, I don't take any notice, that's what I do, just like brush them off. Yeah, I think like if I learn what I'm saying it's fine and that's another thing because I did performing arts. If I can remember without looking at a card, it's easier and it explains better.

Do you, or do you not, have an emotional response to your organisation skills?

It's rubbish. Frustrating. Yeah,

Prompts:

Do you know why you feel that way?

Erm, because if I planned a lot better I'd probably would get better grades. But I think planning takes a long time and I'm a bit of a neat freak when it comes to that sort of thing.

What do you find particularly challenging about the task?

Erm, don't know, I soon feel like I keep things in my head if I've got appointment, like today I knew I had to be, erm, normal, I do have a diary. I always buy a diary every year, never write in it, which is a bad thing, but I always like keep dates and stuff in my head. I have a list of like jobs that need to be done to just get them over and done with. Sometimes I write them down and tick them off in a box.

What do you do about it, i.e. do you have any strategies for coping with the task?

Yeah, like a tick box.

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to meeting deadlines?

Stress, stress.

Prompts:

Do you know why you feel that way?

Erm, I think it's for the type of course that I do, it's difficult. Erm, like you can be working in effect 7.5 hours may be up to 46 hours a week. Erm, and you expected to have two or maybe even three assignments on the go at the same time. It

might be difficult because of like part-time work. It normally takes a priority as well. It shouldn't do but, if you've got no money you can't live on.

What do you find particularly challenging about the task?

Yeah, I think that's what I found with my dissertation, like other assignments. I had a dissertation on complex care needs and then I had a placement. I can only do like one thing, like at a time. I need to focus on that one thing, get rid of it.

What do you do about it, i.e. do you have any strategies for coping with the task?

Yeah, that's what I like to do

Do you have any strategies for coping with the emotional response?

Erm, ripping up my old uniforms. Erm, that did help actually when I failed my exam. I failed my assignment my housemate gave me her old uniform and I just ripped it up. It was quite therapeutic, but listening to music's quite good. Sometimes it can be quite sad music, if you're really built up and you need to like, I know it's a bit of a boy thing, people don't like crying, but for me, if I'm like just feel sad or stuff I shall go into my room, have a little cry and then I'm over it again. It's a good release, stress. And it makes you go to sleep quite quickly as well.

Do you, or do you not, have an emotional response to taking notes in lectures?

Erm, yeah, I just can't take notes. I'm rubbish. I like, I do have a Dictaphone, I should've been using that to record, but it's actually a really lengthy process to transfer that to your laptop and it takes time and it does take up your life and I don't like that. Yeah, I do take rough notes and stuff, maybe.

Prompts:

Do you know why you feel that way?

Just say stop writing. Erm, dunno, like some people write, I think people write too much, sometimes. As long as you put the main points down and stuff and you just

reread what they've gone through. They don't tell you everything in a lecture anyway. You have to look it up yourself, so.

What do you find particularly challenging about the task?

I think they know when they're like rushed the time. I think an hour for certain topics is just too short, like if you're talking about the human heart you can go on for at least like 2 lectures. You know, they're cramming it all into one and you're like skip the page, skip the page. You can read it up later. That doesn't work. When do you have the time to do all that reading and stuff?

What do you do about it, i.e. do you have any strategies for coping with the task?

I'll just look at YouTube, like videos, it's much more. There's people that teach lectures and stuff on YouTube which are more. I might not have known about the types of qualitative methods and stuff, or known about transition, is it transactional leadership when I did that essay. I didn't know a clue what any of those, what they were and I was like, I'm just going to have a look on YouTube. The models. I didn't know what that was about, so I just looked online and it explains it much better, like this is the type of leadership. Especially for biology, it's quite good. You learn a lot more.

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to contributing to seminar discussions?

No, I never contribute anything. I like to sit back and like just get on with it

Prompts:

Do you know why you feel that way?

Dunno, I just think because there is probably more dominant people in the group I think. I just let them rabble on. I think I'm just like, I like to watch people. I think that's what I like to do.

What do you find particularly challenging about the task?

Oh no! I think I'd be all right actually.

What do you do about it, i.e. do you have any strategies for coping with the task?

No, I'm probably too lazy. Sorry that's to say, but I've done a degree before. No, you just can't learn, the think is like, you can't learn everything, like everything that's in that degree.

Do you have any strategies for coping with the emotional response?

Are there any other learning tasks / situations at University that make you feel anxious?

Erm, yeah, I think some of the, oh! Reading out drugs, that's what I don't like to do, drugs, medications and stuff. No, I hate it when you're in a side room and the nurse doesn't want to go because obviously you've got a gown up and she just tells you and she reads them out to you. Yeah, she's like Metaphormine, you're like what's that? Where is it? When she's like, when they give you like a verbal, like they tell you what to write and your like, let me just write it in my own words. Yeah, because what they write and what I'm going to write is like completely different.

What kinds of techniques could be taught during your support sessions that would help you personally to cope more effectively with dealing with anxiety at University?

Music in the background, erm, if they were a bit longer and you had a bit like a break in between I think. Yeah, I think sometimes you can, I think like an hour is quite short, you know like by the time you've got in, had a chat, caught up, seen what you've been up to and then we get on with work, and like, because you get so involved in it, like time goes so quick and it might be a case of like sometimes, I probably don't see you do I, like for a couple of weeks. I won't see you next week. I'll see you probably the week after and that sort of breaks stuff up as well. But that happens with like supervisors and stuff. More consistency. It's good though in some ways, like if I've done my findings and then I'm not going to see you for two weeks and hopefully by that point, I shall have my Discussion done. So it does work in my favour as well.

It's always good to learn how other people manage it. Because some people might do like sort of things that you might not have considered before, like techniques and how to manage.

### **Questions Regarding Your Dyslexic Qualities**

What qualities or advantages do you think you have as a dyslexic student?

Erm, I think you're, I dunno, I think you have a higher IQ, don't you if your dyslexic, erm, that's one thing I know like, Albert Einstein and stuff like, people that might not have reading, I might not have a reading, my reading age must have improved since I had my first test, but my reading and writing age is not so good, but my, I'm more intelligent in a sense that I can explain stuff to you and stuff like that. Yeah, a high IQ. Probably more creative I think. I like to, people like to rush stuff, don't they? I like to dwell over stuff for a bit longer. Yeah, very detailed yeah, very picky about stuff as well.

Final Question:

Is there anything else you would like to say on the topic?

Erm, no, I think it's a good topic to do. I don't think there's a lot of stuff, not that I know of, or read. It's a good topic to do actually I think because a lot of people do feel anxiety and stuff like from dyslexia and stuff. It's very hard to explain to someone that doesn't have it in a sense, like, people like, oh you've got dyslexia. Not all, not all people, but they're like, oh, you're a bit mmm! But there's probably a past stigma around it, whereas now it's changing and stuff. It's more acceptable, it's not like a stigma any more.

## 6.13 Transcript 2

### Introduction:

An explanation on what the study 'an exploratory study of the voices of adult dyslexic learners in higher education and their experiences with anxiety' is about.

The cognitive aspects of dyslexia are currently supported during tutorial through providing strategies to deal with organisation, reading, essay writing, etc.

The emotional side is currently neglected, for example, students with tremendous academic potential refusing to do exams, due to the fear and anxiety associated with this.

That is why I am investigating that area.

### Demographics

Name:

Date of Birth:

Age:

Gender:

Course of Study:

Occupation:

### General Warm-up Questions

Are there other members of your family known to be dyslexic?

Yes, my Father is. That's how they knew I was when I was younger. So my Dad put a lot of effort in making me read out loud and write things because he really struggled at school and they never knew really what to make of it. So he didn't come out of school with much at all and I think he didn't want that to happen to me, when he could see that I was struggling with my numbers and my words. I

wish they would have got me a tutor a bit earlier, but other than that I think they definitely pushed me when I was younger to make sure that I was, you know, up to speed with my reading and my numbers and I appreciate that now, but at the time I hated it because I struggled quite a lot. It definitely helped me get through things.

[When did you find out that you were dyslexic?](#)

So, I guess my first year of university is when I first got officially tested. My parents always told me I was but we never really did anything. So first year of Vet school was when I met Sylvia I think, the Doctor was that diagnosed me.

[How does dyslexia affect you?](#)

Erm, I think I get nervous when I approach things, like you know, I found difficult hence, the problem-solving questions. I know they involve graphs. I know they involve data and I know they normally involve some form of maths. And I hate maths because I struggle with numbers. I always have done and it's just not my thing. So when I see it I, I initially panic. I've learnt to calm down and actually read what's in front of me and also I don't really read out loud, ever in front of a crowd because I'm too nervous to. Bearing in mind I'm quite a confident person. I couldn't stand in front of someone and read. It's okay doing a presentation because I'm not reading from a script but if I have to read from a book I think, one of our directive learnings, they said why doesn't somebody read this out loud and because I'm quite loud people were like 'oh why don't you do it?' And I'm like 'no' fine. It's just maths and reading out loud that I try to avoid when possible.

[What do you enjoy about your studies?](#)

Erm, I'm looking forward to the more clinical side and because it's more hands-on and there's not as much lecture-based learning and it's more actually dealing with people, dealing with cases and working through things and not as much

lecture's. I'm enjoying, I enjoy learning science in general, but. I'm looking forward to doing some more hands-on things next.

What are the main reasons why you have chosen your course?

Never wanted to do anything else since I was very extremely young. I've always wanted to be a vet from the time I was about 4,5 or 6. I've always said, you know, I'm going to be a vet. I will be a vet and I always wanted to go to the Royal Vet College and that's what was in my personal statement, I believe when I first started applying. I guess I always looked at going to the RVC to do the Vet course, so here I am finally.

### **University Experience**

The next section of the interview focuses on a list of academic situations / tasks that your University course normally requires you to do, such as exams, presentations, seminar discussions, essays, etc. I will go through each learning situation on the list and will ask you whether or not you have any type of emotional response to the task.

Do you, or do you not, have an emotional response to reading tasks?

Not particularly, as long as I'm not reading out loud. If I'm just reading to myself, absolutely fine. That doesn't bother me at all. I know how to take my time, otherwise I either skip words or put imaginary words in. But other than that I'm fine.

Prompts:

Do you know why you feel that way?

I guess I probably get a bit stressed about it. I just think, I know I'm going to make a mistake. I'm not confident with reading aloud therefore I'd rather just avoid it. So a mixture of probably stress and fear.

What do you find particularly challenging about the task?

I've always just struggled with reading. I think. I used to. I think when I was younger I probably used to read out loud in school, but I always used to mess up my words and go wrong and things like that, so I just kind of started to avoid it at all costs really.

What do you do about it, i.e. do you have any strategies for coping with the task?

That depends. If I'm reading a paper I will look for keywords and then I shall focus on that and actually read the proper paragraph or the sentence. But for general notes it's just making sure that I'm reading through things and then going back over it to pick out what I feel are the main points instead of just writing down everything. I highlight a lot.

Do you have any strategies for coping with the emotional response?

Yes, definitely, I mean when we did those communication. You got your, you got your scenario on a bit of paper. They said 'oh, read it out loud to the course, to the class'. There is only a group of about five or six of you, but I didn't read out mine. Everyone read there's word for word. I summarised mine verbally because, I just, I just, yeah, I get scared about reading out loud, so I just tend not to do it. So I read it myself and then said basically, I've got this scenario and I didn't read it. I will avoid it when possible. I read it then summarise to the class what the scenario was about and what I'd focus on. That way no one ever knows.

Do you, or do you not, have an emotional response to remembering what you have read?

I get angry if I don't remember what I've read sometimes. It depends how often I've read it especially when, as you know, with the exams been so intense. Looking back and I think well okay, well I did that yesterday. Or for instance in my oral exam, he asked me about a disease. I read about it the day before and for the life of me, I couldn't remember. But I'm not sure if that's because of the amount of

information they're expecting us to remember. But most of the time I'm okay, it's just repetition. I can't remember from just looking at it once.

Prompts:

Do you know why you feel that way?

Because it's just frustration, I'm like, I've just read this, why can I not remember it. It should be in there somewhere because I know I read it. And it's just when you need it at that time to call upon and it's not there. It's just really frustrating.

What do you find particularly challenging about the task?

I think sometimes I struggle. It depends how much I've read in that day, but it just takes time. I have to constantly write stuff down and read stuff aloud multiple times for it to sink in, for me to be able to recall it whenever I need to.

What do you do about it, i.e. do you have any strategies for coping with the task?

Is literally just, all those mind maps and then using the Dragon speaking to, you know, to talk through all the essays over it and go through the main points. It's just writing things down over and over again

Do you have any strategies for coping with the emotional response?

No, it just disappears after a while, normally chocolate, probably just chocolate, properly just munch on my chocolate pot, like this will do.

Do you, or do you not, have an emotional response to your spelling?

Erm, I guess again, I get a bit frustrated, especially with things like, erm, received, you know, the I and the E, kind of rule. I have to always repeat the rule to tell myself, to be able to write it, or the word bridge, or fridge, like the D and the G constantly. Normally I have to write things both ways and try to work out which one looks less wrong. Because sometimes even when I have written something right. I look at it and think that doesn't look right to me. Sometimes. Even sometimes, I write the right word and I say to someone 'is that right?', They're

like 'yeah' and I'm like 'oh, it doesn't look it'. But normally if I write the two ways I'm thinking of side-by-side, I can usually pick the one that looks less wrong, even though they don't look right.

Prompts:

Do you know why you feel that way?

What do you find particularly challenging about the task?

Again I've always struggled with it. I've definitely got better. It's just, you just. It's just the small things. Like the different. I don't. I'm okay with most of the rules, but I say sometimes I just have to repeat, repeat the rules to myself, to be able to write a word. It's always the same word though that I struggle with.

What do you do about it, i.e. do you have any strategies for coping with the task?

No not at all. Had a spelling game when I was younger. That's about, that's what taught me all the rules.

Do you have any strategies for coping with the emotional response?

I have to really concentrate, even when I'm writing, like if I write, there's a joke in my family. Normally when I write a card, there's always a mistake in it because my brain is working faster than I write, so I'm working out what I should say next when I'm still writing the other sentence and there's always a mistake. I have to, if I'm writing something, I guess important, I have to concentrate on each individual word otherwise it doesn't go well. I think most of the time I'm okay, my main issue is when I stop to think about how to spell a word. If I try to stop and think about it that's when I struggle to picture how it looks. So if I'm just typing stuff on Word, most of the time I can just type the thing, like the word veterinary, if I don't think about it, I can just type it, write it, fine. But the moment I start to think about it, my brain goes, 'oh, which way round does that go?', and then I'll go, 'oh, I'm not sure how it looks'. If I take time to think about what I'm doing,

that's when I really struggle, because then my brain goes 'oh, hold on, is this right?' It just comes out.

Do you, or do you not, have an emotional response to undertaking exams?

It depends how badly I think they've gone. I mean, I don't think. This is the first year I would say, I probably wasn't stressed. Normally when I stressed, I really badly scratched my thighs and I didn't scratch my thighs at all this time, so I think I was well prepared. I think before I'd go through a stage of maybe sometimes not sleeping and if it's really badly, I mean, I think with my A-levels the night before one of them, I had a little breakdown because I knew I hadn't studied enough and I just ended up crying myself to sleep because I knew I was going to fail, which I did. Erm, so providing I'm prepared, I'm fine. It's when I feel like I'm not prepared enough for it. The main thing is just, I guess it's just stress and panic of failure and then eventually crying. Exams are definitely more stressful, I'd say because you've got, you know, you're under a time pressure, in a certain type of environment, you know, if you're just at home reading or writing, it's a totally different environment. It's just the amount you're expected to know, I'm just worried that if you're unlucky with the questions and they're not going to ask you something you're strong about, you're going to struggle to recall all the right, all the relevant information.

Prompts:

Do you know why you feel that way?

What do you find particularly challenging about the task?

It's just for me, it's, I know I've studied as much as I can and everything, I just have to hope that I get good questions. If I don't then at least I can remember something, because not everything stays in the brain, so...

What do you do about it, i.e. do you have any strategies for coping with the task?

No, yeah, so the lamination technique was definitely worth it with the question and answers. That definitely helped with the bigger topics I was struggling to because not only is, I'm having to think, I'm also moving around and picking up things and touching things and then I can try and remember, you know when I picked up that word, what answer was that affiliated with and try and do links in my brain, so that was quite handy. The mind maps are always good for summaries but I think it was talking as we talked through all those learning objectives, talking through the learning objectives and those laminations questions and answers were very good. It was very helpful, I definitely will be continuing that next year I think.

Do you have any strategies for coping with the emotional response?

I don't think so. When I was doing my exams, I worked out a lot less because I just didn't have the time. I'd maybe work out in my room but I wouldn't go for as many runs. I mean I don't have a.. I don't find running destresses me. I don't think so. I never feel 'oh, that feels so much better after a run', so I don't, I think, I kind of just keep going until I have a good cry and then I just.. I shall just cry. Cry myself to sleep and then the next day I'll be fine. After that, it's just an emotional release, like just get rid of it all and then just start again the next day, or eat chocolate, or both.

I haven't got much choice, everyone gets stressed and everyone copes with it differently, I mean one of my friends, she was being sick before the exam and things, so I'm quite lucky, I've never, I'm never felt sick or anything like that. I felt nervous going into exams, I'm just worried you know, what kind of questions I'm going to get, but I've never had really like any physical response to it.

I don't have a choice, I might as well just get on with it and hope for the best.

Do you, or do you not, have an emotional response to producing written work and writing essays?

No, I'm fine with writing. I get a bit of hand ache, but other than that, I don't mind that.

Prompts:

Do you know why you feel that way?

What do you find particularly challenging about the task?

No, no, I'm pretty fine.

What do you do about it, i.e. do you have any strategies for coping with the task?

Not really. I must admit even with essays I tend not to plan. I don't know why, I just. I will write a few keywords down that I think of straightaway, that I want to make sure I mention, but other than that, I tend to be able to work the flow out in my brain. I don't even have to do a plan. But again, I was also made to write book reports and essays at home that my parents would read and that, most of the time with my dissertation, my sister is very good with words, so is my mother, so both of those would read through and I think over time, they've seen my essay writing improve and even people at work, they say the structure of my emails and things like that, I mean, I saw one of the managers, I saw an email she wrote the other day and it was awful, like, the vocab was wrong, the flow was just wrong and I think it is a, it's not a talent but it is something you have to learn to do and I learnt that because at home I was made to write extra essays and extra reports and then they'd sit down with me and say right 'well why isn't that bit over here, or this bit should be at the end' and things like that, so I think I was very lucky to have a parents and sister that were willing to help me, so I find that now when it comes to essay writing I'm fine. When I was younger I had, you know, how to plan an essay, how to write an essay and things like that and my sister would sit down and go through them with me, but now, I'm fine with writing essays.

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to doing presentations?

Erm, I always get bit nervous but the nervous is normally, you know, in correlation with how much I know the topic. So if I have a week to prepare for a topic, you know me, when it comes to speaking, I'm more or less okay, so long as I know what I'm talking about, I'm absolutely fine. I'm fairly confident. More often than not I won't have a script. I will just, okay. I will just talk about what they're. However, if I was told 'oh, you're going to be doing this this afternoon', and I didn't have a lot of time to prepare, I can imagine I'd be quite, quite nervous if I was doing that. I'm only good if I've got time to prepare. I always get a bit nervous but once I get talking if I know what I'm talking about, it's absolutely fine, but if I know I don't know all the information, then you know people are going to ask you questions, that's a bit like terrifying. I'm trying to think, obviously in my dissertation, we had to do a presentation on that and I was told I was too confident at the end by the, by the assessor. But I just said, well you know, I've spent months on this dissertation and I feel like I know what I'm talking about. I feel like I know my view, if you don't agree with it, that's fine. So again, it's more to do with how prepared I am. If I know, I know the topic and I've read a wide enough range, that I can answer any questions, even if I have to, you know, blag it a little bit, if I know something then fine. But again if I don't know enough and I know people are going to ask me questions, then I'd probably be a bit nervous.

Prompts:

Do you know why you feel that way?

What do you find particularly challenging about the task?

What do you do about it, i.e. do you have any strategies for coping with the task?

Erm, I guess I read tons of papers for the dissertation, it was literally just, you know, I tried to put as little as possible on the slides to make sure people were focusing on me more than the slides and what I was saying. Erm, I put a few graphs but only the most relevant ones that actually had something interesting to talk about because not all of them did. Erm, and I think I probably, I probably rehearsed in my room quite a lot. I think I remember living with my sister at the time and she was tidying up or doing something in the house and I was speaking my presentation through saying what I was going to say. I think it helps me one, make sure the flow of my presentation is right because then sometimes especially if I'm not reading from a script, sometimes I shall think well what about this? Oh, no I don't need to say that, or I'll skip that part, maybe I don't need to say it, so I see what kind of comes out naturally looking at the slides and if I feel like I, obviously you have to time yourself to make sure you're not taking too much time and cut things out, so I think, yeah, also just practising speaking it allowed beforehand helps me.

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to your organisation skills?

If I'm not organised it stresses me out a lot, yeah, I'm really OCD with that. I'm just OCD with everything about like organising, like being on time, things being clean and tidy. I can't sleep if my room is untidy and if I, if something isn't organised, I have to go and sort it out, or things like that.

Prompts:

Do you know why you feel that way?

I think that's just my upbringing, you know like if I'm late somewhere I get so stressed. Even if it's just five minutes, I get so stressed it's unreal and I just, I just get angry. But I think that's from my upbringing that it's made me think like that, you have to be on time, everything has to be organised, has to be tidy. If you're going to do something, you say you're going to do it at that time, so I do, I get angry. If a bus is late, I'm just like 'oh no, it's going to make me late and I haven't left enough time' and.. I hate it when things are not in my control and that's definitely my parents, dear God. No if I can't control an issue it makes me annoyed, I get annoyed.

What do you find particularly challenging about the task?

What do you do about it, i.e. do you have any strategies for coping with the task?

Not really, I mean, no, I'm just aware of what I'm doing and where I'm going time wise, but I don't have any specific techniques.

Do you have any strategies for coping with the emotional response?

No, no not at all. I just get angry and well.. My sister used to try and help me, just like with little things, being five minutes late doesn't matter in the grand scheme of things, you just need to calm her down about the small things. So now I just spend about five or 10 minutes telling myself to calm down because it doesn't matter. Sometimes yes, sometimes no. Sometimes I manage to calm myself down and to think get over it, it doesn't matter, sometimes I just stay angry for a while.

Do you, or do you not, have an emotional response to meeting deadlines?

Always, if I miss them, I'd be very annoyed. Well, if they're the deadline I should know about, if I don't know about it I haven't done my research and therefore it's

made me miss something, that I should have otherwise missed. I've done that before with a few things. I've either skipped over something and haven't read something thoroughly and I've missed out a vital point, to do with things like accommodation, or when I have to get things in for certain forms and I just get angry thinking if I took the time to read that, or look at it properly I'd know about that deadline and I wouldn't have missed it.

Prompts:

Do you know why you feel that way?

Because I've always been that way, if you read all my school reports, it's always Natalie does things too fast, she needs to stop and you know, look at everything and that hasn't changed.

What do you find particularly challenging about the task?

What do you do about it, i.e. do you have any strategies for coping with the task?

I will just work until I've met it really, I mean. No, I don't think so, I don't think I've ever done that for any project, I just think I know exactly where I want to be before I hand things in. I may say, when it gets closer to the deadline. I may say, okay I want to have this bit finished and ready to check by this date, but I don't actually write a timeline, so maybe a bit closer to the time, I'll give myself a bit of a timeline, but generally.... I will never leave anything to the last minute because then you just stress out when you don't need to because they normally give you enough time. I feel like if I start it early I can pace it out. I don't have to spend, you know, if I started it two days before you'd have to spend a whole two days doing it. Whereas this way, I can take my time and take nice breaks and do other things in between.

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to taking notes in lectures?

Just boring, I just can't ever concentrate and then I get angry with myself for playing candy crush. But now, obviously last year, last time I was literally just looking at the handouts and reading with the lecturer and highlighting random bits, whereas now I'm not looking at the lecture slides, I'm purely listening and answering the learning objectives and I find that makes me more, what's the word? Just not connected, but I'm just more aware of what's going on in the class. I'm not, it's more of an active learning thing rather than me passively just sitting there reading a line, listening, hoping I'm, you know, because normally they just read off the slides anyway, so that's so boring having it in front of you. So now I've found that with note taking it's better for me to actually have a blank space with the learning objectives and to write down anything they say I think answers those. It took a few years but I've found a way to hopefully stay awake in them. I've never looked at a lecture before the lecture because I find that if I look at it before there is no way I'd pay attention in that lecture because I've already gone through it, so that would never help me. Erm, if there's something I'm unsure about I will go back home and Google it, but other than that I don't tend to make questions, it's only if I, there's a word I don't understand or I've seen before but I can't quite remember I will look it up.

Prompts:

Do you know why you feel that way?

What do you find particularly challenging about the task?

What do you do about it, i.e. do you have any strategies for coping with the task?

Do you have any strategies for coping with the emotional response?

Do you, or do you not, have an emotional response to contributing to seminar discussions?

Fairly confident with that. I'm happy in group discussions. The only thing I'm aware of is that I'm not too overbearing, because I know I can be, because I'm quite loud and quite opinionated, I know sometimes, I can be a bit much, like for instance in the Veterinary interviews, one thing that most of them do is they put you in a group and they give you a task to do in the group because they want to see how you do as a group, are you shy? Too quiet? Are you too confident? Are you not listening to others? And in one of the, I think it was Nottingham's interview, erm, put in a group and they gave us loads of clinical scenarios and asked us to pick what we felt were the top five, so being me I took the lead and said 'well why don't we try doing this?' And then I thought, okay make sure now you have to ask other people their opinion and then luckily a few other people chipped in and then I, you know, there's a girl I noticed was quite quiet, so I said 'oh, what do you think?' I'm never nervous, I'm just more aware of the fact that I, you know, you need to let other people speak and other people have a say and I try to make sure I'm aware that sometimes I do be quiet, or I do bring someone in that's maybe being a bit shy. They did that at the RVC as well, I assume I did okay because I got in.

Prompts:

Do you know why you feel that way?

I guess because I've always been in conversation with peers, if maybe it's just me and a group of, you know, experienced clinicians talking about something, I probably wouldn't say much because I don't know a lot, so it's okay with. I just, I won't talk unless I have something relevant to say, so I don't think I'd feel too nervous usually.

What do you find particularly challenging about the task?

What do you do about it, i.e. do you have any strategies for coping with the task?

Do you have any strategies for coping with the emotional response?

Are there any other learning tasks / situations at University that make you feel anxious?

Sometimes I get anxious in dissections that they might ask me a question that I'm meant to know and I know I don't. The only time I really ever get nervous or anxious is if I know I should know something, or I know I don't know enough about something and I'm in a scenario where I need to know more than I do, then I get a bit nervous that, you know, you are aware that there are always people around you that know more than you, so sometimes I've been in a live dissection and he's asking what's this? What's this? And other people around saying 'oh this and that' and I'm like, I don't know that, or I couldn't remember that and that's when I feel a bit like 'oh, gosh I should know more of this'. It's just frustration as well. It's like anything to do with a lack of control, or I have a lack of knowledge, they're the two main things that make me either frustrated normally, it's normally anger that I go through first. I'm never normally scared or anxious, it's more frustration and anger, not being able to do as well as I know I should be. Angry will always come first. I have massive anger issues, seriously, since I was a child. I'm not kidding, like my Game Boy had bite marks in it when the game cheated. I'm serious, so no, I'm just again my sister vetted me to just calm me down about things because anger and frustration are the two things I feel first. Other than looking at maths and reading aloud then I'm quite scared of doing it, but..

I don't know, it kind of just dissipates after a while, I just, I talk myself out of it, or I just... Normally I'd say it's either myself for not doing as well as I should have done, or sometimes it's just the situation I'm in and then again it's the lack of

control I have over that. I think I probably say that to myself, 'well you won't be doing that again will you?' Because I always tend to learn the hard way. I think sometimes when I've done something, like I've missed a deadline, or I haven't read a small detail, I'm like well next time I will make sure I'll do that, so sometimes it can be positive because it makes me think well I'm not going to have myself in this situation again. Things like you know, when I failed one of my A-levels, well I didn't fail, I just did very badly because and I just thought, well I'm not going to muck about in class again because I don't want to be crying before the night of an exam and then get my results and realise I have to do another year of college and things like that.

What kinds of techniques could be taught during your support sessions that would help you personally to cope more effectively with dealing with anxiety at University?

I guess it depends on what they are experiencing, I think. I mean as far as exams go you're never going to get rid of exam stress, you're always going to be nervous, you're never going to know what's on the paper. The only thing you can do is just prepare yourself as best you can and that's where all the strategies come in right. It's about making yourself feel confident that you've put in the effort, you know as much as you can know and therefore hopefully, you will still be stressed, but it's just about minimising stress and anxiety you feel and that all comes as we've done in the sessions just working your way through things and if like for instance, we worked on the problem-solving questions because we knew I was, I was quite anxious about that. I was nervous about seeing those questions and having to, you know, do some maths and work out some data, so it's about pinpointing I think how you feel about certain aspects and the ones you're more anxious and more nervous about its taking the time to deconstruct them so they're less scary basically. Like I'm sure if someone sat down and you know, gave me maths questions and broke them down I'd feel less nervous about them because I could then deal with them, but if you're just put there and you're already.... Like in my

head, as soon as I see maths my brain automatically is in a negative, so it's all 'oh God, we can't do maths, we can't do this' and that doesn't help because it's all just a repetitive cycle and then you will go, but if you've got someone that says 'okay, we know you don't like this, we know you're nervous about this, but we're going to take our time and go through it and afterwards you're going to get this'. It's just about minimising the stress about whatever, whatever makes your brain scream when you see it basically. And you just have to, you're going to have to just face whatever your anxious about because especially... Like, you know, if you're on a course where you can't avoid whatever makes you nervous then you're going to have to find a way to break it down and deal with it and make sure that when you approach it next time, you're like well I've done something like this before so I know I'm capable, I'm just going to give it a go, but it's just about making it less scary I think, when you see something.

#### [Questions Regarding Your Dyslexic Qualities:](#)

[What qualities or advantages do you think you have as a dyslexic student?](#)

I think I probably just have, I think I work harder because I've always known I need to work harder, whereas I think the girls around me, like for instance, the girls in my flat, no one worked as hard as I did, now, they all passed. Some of them I'm sure did better than me and that's what's more frustrating is that I can work really hard than someone who doesn't need to work as hard and they will still do better than me. That's always a bit demotivating, but some people have a natural gift. I think it's probably helped me just be, I'm not going to use the word stubborn but more driven to.. Well actually just to prove people wrong because when people see you struggle all the way through, you know, secondary school and college you're told 'you're not going to be a vet, you're not going to go to university' I mean even the woman that tested me, she was like 'how have you

got to university and not being diagnosed?’ So I think, but she just said, you know, but the fact that you’ve got here will prove that you found ways around whatever your weaknesses are. It’s the idea that I’ve been told I can’t do it, therefore I will find a way to do it. It’s just a stigma I guess that... I think it’s not as bad as it was, I mean so many people, like at University now they are making people more aware, that you know, if you are struggling there could be a reason your struggling as opposed to your just struggling, so I think, I know a few more of my friends have got tested for it and have found that they have had issues, but everything, you know everyone has different ways of learning, different ways of coping, for me it’s just, work my way through it until I get the result I want basically. I don’t tend to like giving up on things.

Final Question:

Is there anything else you would like to say on the topic?

I think maybe the universities need to give a wider range of learning resources, because I mean, I guess it’s hard. What else can you do other than lectures? At the moment, you know, you either learn by being taught, spoken to, or by reading, there’s no, that’s what I like about the directed learning so much, we are in a group, we’re all discussing problems and their even writing or typing up and that gets sent around to the whole group, you know, even dissections, you’re in a group, you’re discussing things again and you’re physically touching things and that’s, I mean, I think that’s obviously why they have tutorials, that’s why they have directed learning because they understand that not everybody can get all the topics just sat down in a lecture being spoken at the whole time. It is a shame that, I mean, there’s probably limited in the ways they can deliver so much information in such a short amount of time. You think of how long the academic year is and you put in exams and holidays, but like personally for me sitting in a lecture theatre really does nothing for me. I go because I know I need to go and I won’t listen to the lecture later at home, whereas a girl in my flat, she doesn’t

really work but she learns by listening, so lectures are perfect for her because she will just listen to what the guy says and she just absorbs it all and it just, you know, she can just recall it whenever she needs to, whereas not all of us are that lucky. If they could do a bit more it would be nice, but again it just depends, on that, it just depends on the course, some courses have a bit more leeway for doing that sort of thing. I don't think the Veterinary course does. And also if you look at the type of people that tend to get into veterinary, their all from, you know normally private schools and things like this.

I mean, I think the RVC at University we were tested, you know, we did our dissertation so that's your written and reading, we did our presentations as well and answering questions. For this we had our orals as well as our, you know, when we had samples in front of you, so I think the testing at the RVC they've done it, but I think again that's very course specific, you know, if you're just doing geography all you're going to be able to do is write an essay, or give a presentation. You're not going to be able to, you know, physically, you know, give a map of the world and roll things out. So that really does depend on the course, but I think other people have become more aware of what other people need, hopefully.

Well we had a woman come to speak to us to say, you know, I'm here to, if you just want to have a chat because you're having stress about exams which my friend that was being sick she went and spoke to her to talk about her stress and things like that, the short of it is, you know, just come in and talk to me, come and talk to me if you want to talk about exams strategies, make an appointment, we shall find out what's best for you, so I think they are aware that maybe some people do just struggle with the lecture majority based learning. Services take time to find, you know, people to come in and say 'well why don't we try this with these students?' And things like that, so...

## **Appendix J: Example of Manual Coding of Transcripts**

Question - Do you, or do you not, have an emotional response to....tasks?

Reading Tasks:

The Emotional Responses:

**Dean:**

I hate reading, I hate reading out loud, it makes me feel very anxious. Hate  
Anxiety

**Naomi:**

That's the thing I've struggled the most with, especially if it's timed and if  
it's a group work.

**Sue:**

I think a little bit of, I'd say not frustration, a bit of frustration and then Frustration  
quite a bit of, I have to really think about timing, when I'm going to have  
time to read because I have to make sure that I read it about twice to  
make sure that I haven't skipped lines or anything.

**Tina:**

Enthusiasm Exposure. Enthusiasm

**Laura:**

I think when it comes to reading, it's a bit of a mixed emotion. I feel happy Mixed  
that I'm gaining new knowledge, but I feel limited, because I like to read Emotions  
above what the reading list, but when it comes to writing the essays, if I Happy  
didn't incorporate some of the text that are not relevant, it does quite  
limit my marks.

**Alison:**

If it's in an academic seminar, I'd definitely feel uncomfortable with it. Uncomfortable  
Probably because, because I wouldn't say I'm the most efficient reader,  
probably stumbling on my words.

And I remember her saying, going round, and people would have to read Anxiety  
a sentence and kind of say what they think it meant and that was  
something I got quite anxious about, because that's not just reading, it's  
like all of a sudden, I'm having to read and on the spot figure out what  
they mean and I don't know what they mean straightaway and it's finding,  
and I suppose that makes me feel quite stupid to be completely honest, Feel Stupid

and there's obviously there's that thing of not wanting to look stupid in  
front of people, although that's stupid in itself, but you know what I  
mean?

**Cara:**

It depends, like if I'm in the mood to read something, I'm fine, and I will  
just get on with it, but if I've got a block, I will sit there and not be able to  
take anything in, so I will sit and I will read pages and pages and then  
realise that I haven't actually read a word of it, and then obviously you've  
wasted a lot of time and energy that you know, I could have gone away  
and done something else and actually done the reading when I would  
have read it.

It's more a sense, the anxiety gives a sense that I should be working and I Anxiety  
sort of, I put a lot of pressure on myself that like we were saying earlier, Pressure  
that I should be doing more, and I feel like I should be able to, like it's just  
sitting down and reading, that should be easy.

**Chloe:**

So a mixture of probably stress and fear.

Stress  
Fear

**Rachel:**

Overall, I think it's more the fear of reading than anything. Yeah, it's definitely anxiety. I guess from early on, I've always found it difficult and you know, I kind of remember being tested and. I was tested as a child. I was in remedial classes, but it wasn't identified what the problem was, so therefore I always felt kind of stupid basically.

Fear  
Anxiety

I know that you know the classic thing of like when you knew that you had to read, say you were in an English class and you had to read a passage, my heart would be beating, and my concentration would completely go, because I was so afraid of having to read out loud, and that's because I thought I would stumble over the words which I often did, but that's because I was so afraid that I couldn't really, I could only see one word at a time and I couldn't really make sense of the sentence, and then I couldn't punctuate it, or, I would come to the end of the sentence and it wouldn't, you know. It wouldn't read properly.

Feeling Stupid  
Afraid  
Afraid

**Sam:**

I think I've been quite capable, like, not a good reader but I think like since a young age in school when you had to read out in class, so it never really fazed me I guess and if we've done reading at Uni it would always be to yourself.

Capable

Like they don't know, it's not like a, they don't check up on you, so it's up to you.

**Debra:**

so the fact that I know I have to read it like a couple of times to remember it, that's what kind of stresses me out. Stress

**Lisa:**

I think it very much depends on the time frame that I have to read it, like if I've left it to the last minute and I'm just skimming through it, I get a bit distressed, but in general I like reading, so I enjoy it. Distressed  
Enjoyment

**Alan:**

I think, when I did my masters, I'd take it quite, maybe too seriously and I would think, right I'm going to read this many pages, so I think, I suppose emotionally it was not really feeling but it was just too serious. 'I must read this and I must understand it' and it was very like to the point, like you'd just do it, because I thought 'oh, I need to read as much as possible because I can get cleverer and I'm going to understand everything' so it was like some military approach to it. It wasn't really feeling, but more like 'I must do like this'.

**Ada:**

Not really, reading as I said, erm, I'm quite strong in reading so emotionally I would say that it doesn't affect me to a greater extent, so I'm quite confident about reading. Confident

Themes:

Mixed emotions from anxious, stressed, frustration, uncomfortable and feeling stupid particularly when reading out loud to happy, capable, serious and confident.

#### Positives:

Enthusiasm, Happy, Capable, Enjoyment, Confident.

#### Negatives:

Hate, Anxious, Frustration, Uncomfortable, Feeling stupid, Pressurised, Stress, Fear, Afraid, Distressed.

#### Interpretation of Themes:

Mixed emotions due to inconsistencies with dyslexia i.e., whilst high intellectual capability on the one hand, underlying processing difficulties on the other hand potentially cause feelings of frustration. Phonological difficulties in manipulating sounds of words when reading out loud in these types of 'evaluative situations' leads to feeling stupid.

#### Linked to Theories in Literature Review:

One of the reasons for the negative emotions could be due to the frustration that people with dyslexia feel when despite having high intellectual abilities, they still struggle with reading. For example, this is described by Grant on his statement that 'to meet the criteria for diagnosis of dyslexia there needs to be evidence of a discrepancy between levels of intelligence which should be in the average range or higher and scores on reading and /or written language tests which should be significantly lower than the student's intelligence level (Grant, 2010). However, as people with dyslexia progress from childhood to adulthood and particularly if they are going into academia they usually develop knowledge, skills and compensatory strategies to deal with reading and spelling difficulties, and the nature of the difficulties then changes from literacy based problems to other difficulties, such as those associated with organisation, planning structures for essay writing and managing time effectively. Thus, for those with effective compensatory strategies for reading this may explain the more positive emotions around this.

## **Appendix K: Example of Electronic Coding using NVivo**

<Internals\\10. Dean> - § 2 references coded [0.94% Coverage]

Reference 1 - 0.89% Coverage

There's another thing I only realised recently, I'm quite good at taking in ideas when I'm distracted, so say I'm, I don't know, preparing my lunch, I'd be listening to one of the readings and I'd take it in, whereas if I had to put, say right you need to sit and listen to this for an hour without doing anything else, I would just lose. Or painting my nails for example, I don't know whether it's because I'm relaxed, I'm under less pressure, but I only realised that towards the end. I think that's how I learn.

Reference 2 - 0.05% Coverage

There's another thing I only realised recently, I'm quite good at taking in ideas when I'm distracted, so say I'm, I don't know, preparing my lunch, I'd be listening to one of the readings and I'd take it in, whereas if I had to put, say right you need to sit and listen to this for an hour without doing anything else, I would just lose. Or painting my nails for example, I don't know whether it's because I'm relaxed, I'm under less pressure, but I only realised that towards the end. I think that's how I learn.

<Internals\\11. Naomi> - § 3 references coded [1.31% Coverage]

Reference 1 - 0.76% Coverage

I came up with, it's a sense of like, I will try and focus on something for about an hour and then I have a 10-minute break and then I have to try and get back at it and I have to really, I have a lot of

things with schedules and plans, like I have to do like to do lists for every day, because otherwise like I don't focus on anything or, I don't get things done and I procrastinate, but yeah, when it comes to like reading and stuff I have to give myself a schedule of how I'm going to do it, so God it sounds so much more tiring, but like I have to say

well you know, I'm going to try and read as much of this article as I can, when it gets to a point when I know I'm not focusing on it properly, go away, have a cup of tea, come back, try again. Sometimes if it's online, I'll print it out because if I can follow it with my hand, like you know and see where I am that stops me skipping lines and also visually it means I know exactly how much I've got left, so sometimes when you're scrolling, you're like oh my goodness this is never ending. So, they're normally my strategies in the sense of printing it off, if I can get it on yellow, yellow and then giving myself breaks when I know I'm not focusing.

#### Reference 2 - 0.30% Coverage

I came up with, it's a sense of like, I will try and focus on something for about an hour and then I have a 10-minute break and then I have to try and get back at it and I have to really, I have a lot of things with schedules and plans, like I have to do like to do lists for every day, because otherwise like I don't focus on anything or, I don't get things done and I procrastinate, but yeah, when it comes to like reading and stuff I have to give myself a schedule of how I'm going to do it, so God it sounds so much more tiring, but like I have to say

well you know, I'm going to try and read as much of this article as I can, when it gets to a point when I know I'm not focusing on it properly, go away, have a cup of tea, come back, try again. Sometimes if it's online, I'll print it out because if I can follow it with my hand, like you know and see where I am that stops me skipping lines and also visually it means I know exactly how much I've got left, so sometimes when you're scrolling, you're like oh my goodness this is never ending. So, they're normally my strategies in the sense of printing it off, if I can get it on yellow, yellow and then giving myself breaks when I know I'm not focusing.

#### Reference 3 - 0.25% Coverage

I came up with, it's a sense of like, I will try and focus on something for about an hour and then I have a 10-minute break and then I have to try and get back at it and I have to really, I have a lot of things with schedules and plans, like I have to do like to do lists for every day, because otherwise like I don't focus on anything or, I don't get things done and I procrastinate, but yeah, when it comes to like reading and stuff I have to give myself a schedule of how I'm going to do it, so God it sounds so much more tiring, but like I have to say

well you know, I'm going to try and read as much of this article as I can, when it gets to a point when I know I'm not focusing on it properly, go away, have a cup of tea, come back, try again. Sometimes if it's online, I'll print it out because if I can follow it with my hand, like you know and see where I am that stops me skipping lines and also visually it means I know exactly how much I've got left, so sometimes when you're scrolling, you're like oh my

goodness this is never ending. So, they're normally my strategies in the sense of printing it off, if I can get it on yellow, yellow and then giving myself breaks when I know I'm not focusing.

<Internals\\12. Sue> - § 1 reference coded [0.40% Coverage]

Reference 1 - 0.40% Coverage

If I don't want to read it that will be an avoidance tactic, or if it's optional and I've got other priorities, it comes down to if I'm really interested in it I will do it at most no costs really. If I'm kind of like oh I don't want to read that and I've got no interest in it whatsoever then I will try and put it off, it really depends on what the subject matter is, or if I understand the reason for doing it. Sometimes there is no reason for reading something and you think 'why am I reading this, this is pointless'.

<Internals\\13. Tina (Recovered) (AutoRecovered)> - § 1 reference coded [0.19% Coverage]

Reference 1 - 0.19% Coverage

I would go a walk, maybe go and have a chat to someone see how they're doing and then come back to it.

<Internals\\15. Laura Saved> - § 2 references coded [0.48% Coverage]

Reference 1 - 0.30% Coverage

I mean I always made sure that I had all the articles with me, even if it was on my iPad, so I could, I would be able to read in the classes if I needed to. I think it's quite hard, University expects you to read everything, but in reality, not many people do, but I would say pressure comes from having to skim it fast and being able to retain

it which is not a skill of mine. I'm much better at reading it slowly, absorbing it and then I can talk about it in detail.

Reference 2 - 0.18% Coverage

I mean I always made sure that I had all the articles with me, even if it was on my iPad, so I could, I would be able to read in the classes if I needed to. I think it's quite hard, University expects you to read everything, but in reality, not many people do, but I would say pressure comes from having to skim it fast and being able to retain it which is not a skill of mine. I'm much better at reading it slowly, absorbing it and then I can talk about it in detail.

<Internals\2. Alison> - § 2 references coded [0.95% Coverage]

Reference 1 - 0.55% Coverage

I've always just struggled with reading. I think. I used to. I think when I was younger I probably used to read out loud in school, but I always used to mess up my words and go wrong and things like that, so I just kind of started to avoid it at all costs really.

Reference 2 - 0.40% Coverage

Yes, definitely, I mean when we did those communication. You got your, you got your scenario on a bit of paper. They said 'oh, read it out loud to the course, to the class'. There is only a group of about five or six of you, but I didn't read out mine. Everyone read there's word for word. I summarised mine verbally because, I just, I just, yeah, I get scared about reading out loud, so I just tend not to do it. So I read it myself and then said basically, I've got this scenario

and I didn't read it. I will avoid it when possible. I read it then summarise to the class what the scenario was about and what I'd focus on. That way no one ever knows.

<Internals\5. Cara> - § 1 reference coded [0.53% Coverage]

Reference 1 - 0.53% Coverage

Plenty of breaks, like the usual, exercise, making sure you're hydrated and well fed.

<Internals\8. Chloe> - § 1 reference coded [0.81% Coverage]

Reference 1 - 0.81% Coverage

If I got really tired, I will say there was quite a few articles I gave up on, if there is a writer who likes to use, whose too, too academic and would like to use a lot of words and saying long sentences to sound more something instead of saying exactly what they mean, I wouldn't read it. I would say I'd find something else, I'm not going to spend that long. Say what it is. Say what you want to say and just don't, you know, say what it is.

## **Appendix L: Cognitive Coping Strategies Used for Each Study Task**

*Summary Table of Main Themes for Cognitive Coping Strategies*

Themes for Reading Tasks:

Technology	Multisensory	Practical & Favourite Things:	Scotopic Sensitivity	Techniques	Metacognition
Reading online	Hear it and say it	Using highlighter to visually mark out important bits	Yellow paper and glasses to read	Skimming and scanning	Interest
Wikipedia to know background	Reading whilst hearing audio version	Printing papers	Using ruler to visually track	Selectivity - reading	Awareness of times of day best to work.
Reading online	Read and Write software to hear text aloud and read along	Printing papers	Using a blank sheet of paper to visually track	Selectivity - relevance and using abstracts	Environment - somewhere quite

Google authors and themes		Timetabling	Coloured glasses	Making notes and highlighting on reading	Taking breaks
Google for understanding		Animal post-it notes to mark out text	Printing papers to reduce visual tracking difficulties and colour sensitivity	Selecting key things	
Dragon and Read and Write software		Highlighting		Making summaries	
Using find on PDFs for keywords		Asking lecturer		Making notes on reading	
Breaking words down and looking		Highlighting		Selecting key things	

for meaning of words					
		Printing papers		Making summaries	
		Highlightin g		Selectivity - key pieces of text first	
		Printing papers		Selectivity - pick key points	
				Selectivity - Rereading and picking key points	
				PASS reading strategy	
				Making notes on reading	

				Skimming and scanning	
				Applying reading techniques	
				Making summaries	
				Colour coding quotations	
				Traffic light system - colour coding with each colour representin g something.	
				Highlightin g combined with	

				drawing for keywords	
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Themes for Remembering Tasks:

Technology	Multisensory	Practical	Materials	Techniques	Metacognition
Using Dragon software	Verbalising it – teaching it and explaining it to someone else	Highlighting	Thin coloured pens	Highlighting key words and drawing images	
	Multisensory – look, say, write, check	Highlighting		Colour coding	
	Using kinaesthetic strengths to physically write or type			Rereading and highlighting key things	
	Using visual strengths			Colour coding –	

				with each colour representin g something	
	Write – hear – read aloud - repetition			Drawing pictures – linear	
	Verbalising			Printing papers combined with making summaries	
	Verbalising – teaching it and explaining to someone else			Skimming	
				Selectivity and extracting info	

				Making summaries	
				Colour coding to annotate	
				Thematically coding text	
				Repetition	
				Repetition	
				Practice essay questions and bullet point responses	
				Colour coding - notes and cards	
				Drawing diagrams	

				Keywords and visual images	
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Themes for Spelling Tasks:

Technology	Multisensor y	Practical	Materials	Techniques	Metacognitio n
Using online dictionarie s for meanings	Learning songs	Designatin g to colleague / friend to interpret words	Using thesauruse s and dictionaries . Thesauruse s for meanings. Various dictionaries - older dictionary for older versions of a word.	Copying words off electronic charts	Hide computer screen
Using Google to have the word	Time and sounding it out	Spelling games		Mnemonic s	Avoidance

broken down phoneticall y					
Typing in Word	Write it down to visually check	Highlightin g		Repetition	
Using computer to spell check	Sounding it out	Designate to colleague for marking		Mnemonic s	
	Write it down to visually check			Making glossaries	
				Repetition	
				Rote learning	

Themes for Exams:

Technology	Multisensory	Practical	Materials	Techniques	Metacognition
Using Dragon software	Verbalising	Highlighting	Using cards	Timetabling exam	Having breaks
	Visual techniques - making posters - colour coding subjects - images for authors / concepts. Drawing arrows to link	Using exam concessions. Computer. Extra time.	Scribe	Use to-do-lists	Environment - small room
	Placing posters around house	Highlighting	Q cards	Set purpose	Picking modules not assessed with exams

	Verbalising		Post cards	Condensing information	Awareness of when best to work
	Making notes - coloured paper - coloured pens		Same pen and jumper - familiarity	Making summaries	Avoidance
	Drawing diagrams		Laminated cards and question and answer matching	Repetition	
	Verbalising - reading aloud to hear it			Finding technique and applying	
	Drawing and using visual images			Timetabling	

	Making posters			Proofreading	
	Using kinaesthetic techniques - moving around			Practice past papers	
				Making questions	
				Practice essay questions and bullet point responses	
				Condense it through bullet points	
				Condense to word triggers	

				Practice essay questions	
				Timetabling	
				Making links	
				Practice essay questions	
				Using Power point of lecture on screen with written notes and textbook. Condense down onto one page. Using visualisatio n	

				Practice essay questions	
				Making summaries and carrying them around	
				Practice essay questions and apply scheme for essay structure	
				Breaking down the question Selectivity with questions	
				Selecting questions	

Themes for Writing Tasks:

Technology	Multisensory	Practical	Materials	Techniques	Metacognition
Using Dragon software	Verbalising	Doing writing courses Utilising University resources	Printing papers	Categorising information	Taking breaks
Use computer to turn to linear structure		Designating proofreads for content and grammar	Using essay checklists	Using two-word documents: Structured and academic. List of bullet points and concepts.	Recognising metacognition
		Using disability adviser to help break it down	Using dyslexic cover sheet on submissions	Using plans	Having breaks
				Using sub-headings	Using pressure

				Content first. Academic sounding second.	
				Starting early	
				Setting small goals	
				Using plans	
				PEC method	
				Breaking main question into smaller questions	
				Listing keywords	
				Extra homework	

				Making a plan	
				Intro and three main points	
				Dividing up word count	
				Break up and timetable writing	
				Starting early	
				Starting early	
				Making a plan – using mind maps to see links	
				Drawing mind map	

				then doing on computer	
				Using sub- headings	
				Starting early	
				Making a plan Break up and timetable writing	
				Making a plan Using subheading s	
				Title Thesis Subheading s	

				Stick to answering question	
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Themes for Presentations:

Technology	Multisensory	Practical	Materials	Techniques	Metacognition
Making mind maps using inspiration	Drawing pictures	Member of Toastmasters to practice presentation skills	Using a script	Rehearsal	Taking off spotlight by using activities
Using Dictaphone to record presentation	Verbalising		Script on cards	Rehearsal	Select enjoyable topic
Make visual power points	Drawings to replace writing words			Making a plan	Avoidance
				Rehearsal	

				Rehearsal and timing	
				Using slashes as visual indicators of where to pause and breathe	
				Rehearsal	
				Timing	
				Focus on delivering key point	
				Rehearsal and practice questions	
				Rehearsal	
				Rehearsals	

				Preparation	
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Themes for Organisation:

Technology	Multisensory	Practical	Materials	Techniques	Metacognition
Using online forums - get disciplined - get motivated	Visual poster on wall	Filing in order	Tick boxes	Plan weekly - two weekly cycle	Tidy work place and home to have a calm organised brain
Excel to-do-lists	Visual poster / timetables on wall	Support networks	Using diaries to timetable work on essays	Colour coding	Awareness
	Visual poster / calendar on wall		Using diaries to write down everything	Timetables for essays and writing	Organised / organised in brain
			Using to-do-lists	Make Sunday to-do-lists	

				rough plan for week	
			To-do-lists	Colour coded Priority coded	
			Post-it- notes	Making systems to be controlled	
			Lists on front of a diary	Colour coding	
			Daily work to-do-lists	Colour coding for different modules	
			Calendars Writing things out	Breaking it down and setting min-goals	

			Weekend – coffee – radio – food and make massive diary planners	Breaking it down and setting mini-goals	
			Nice folders	Starting early	
			Organised folders to structure life	Starting early	
			Mobile phone reminders	Breaking it down and setting mini-goals	
				Starting early	

Themes for Note-Taking:

Technology	Multisensory	Practical	Materials	Techniques	Metacognition
Using a Dictaphone	Drawing images		Colour pens	Mind mapping	Relax whilst notetaking
Using YouTube videos	Having information delivered in different ways		Colour pens	Turing paper round	
Audio notetaker software	Hearing it		Using coloured paper	Re-highlighting Expanding on points	
Dictaphone	Drawing		Coloured pens to colour code	Typing up reading	
Dictaphone	Read aloud notes to capture on computer			Active learning	
Using Dragon software	Hearing it			Selectivity through abbreviating	

Using Dictaphone	Drawing			Use shorthand and symbols	
Using Dictaphone				Print out Power Points and write on.	
Using Dictaphone				Paper space – drawing stickmen and boxes	
				Highlight key points	

Themes for Discussions:

Technology	Multisensory	Practical	Materials	Techniques	Metacognition
Carry around voice recorder to capture verbalisation of idea	Drawing Visual			Preparation	

	Verbalise ideas			Doing research	
				Ask questions	
				Play Devil's Advocate	
				Doing research	
				Ask questions	
				Use defensive strategy of dyslexia as explanation for people to repeat themselves	
				Mediate discussions	

				Use dyslexia as an excuse to ask questions to help others in group	
				Asking people to repeat it or explain more clearly.	
				Preparation	
				Doing research	
				Structure on paper and ask questions	
				Preparation	

				Doing research	
				Highlighted sections on paper	
				Preparation	
				Be first one to say something	

*Summary Table of Main Themes for Emotional Coping Strategies*

Reading Tasks:

Positive Emotional Coping Strategies:

Distraction techniques.

Preparing lunch or painting nails whilst taking in reading.

- Metacognition – awareness of how needed to learn.
- Implementing breaks.
- Using breaks.
- Breaks and exercise.
- Being hydrated.
- Using to-do-lists and schedules.
- Tea and try again.
- Printing on yellow paper.
- Walking and having a chat.
- Preparation.
- Taking time to absorb.
- Making summaries.

Negative Emotional Coping Strategies:

- Avoidance
- Avoidance
- Using disguise
- Giving up
- Avoidance

- Replacing it with something else.

Remembering Tasks:

Positive Emotional Coping Strategies:

- Compensating by developing other skills like being practical.
- Being consciously aware.
- Exercising at gym.
- Exercise.
- Eating healthily.
- Exercise – running.
- Walking.
- Talking to someone.
- Talking to Mum.
- Taking breaks.
- Breathing techniques.
- Stepping away.

Negative Emotional Coping Strategies:

- Panic
- Thinking unhealthily
- Getting stressed and worried and then vicious circle as dyslexia is more apparent when stressed.
- Getting stressed.
- Shouting.
- Crying.

- Crying
- Eating chocolate.
- Family support network.
- Taking time.

#### Spelling Tasks:

#### Positive Emotional Coping Strategies:

- Trying various strategies.
- Breaks.
- Try again.
- Walks.
- Dog to structure day and to have breaks.
- Dog to take stress away.
- Exercise.
- Exercise – sports.
- Hard work.
- Mental toughness.
- Self-help books.
- Cultivating right mental attitude.
- Meditation.
- Om chanting.
- Listening to Zen music whilst studying.
- Mindfulness.
- Step-by-step approach.
- Humour.
- Psychologist.
- Change to part-time.

#### Negative Emotional Coping Strategies:

- Avoidance.
- Replacing words with words to disguise.
- Avoidance and replacing words with words to disguise.
- Avoidance.

#### Exams:

#### Positive Emotional Coping Strategies:

- Breathing techniques.
- Breathing techniques.
- Breathing techniques.
- Breathing techniques.
- Stepping away.
- Exercise – swimming and yoga.
- Exercise – cycling to exams.
- Exercise – gym.
- Exercise – gym.
- Rescue remedy.
- Taking time.
- Participate on NHS stress course.
- Identifying anxious triggers.
- Relaxation CD.

- Stop drinking coffee.
- Meditation.
- Meditation.
- Stretching.
- Being outdoors.
- Mindfulness.
- Mindfulness.
- Mindfulness.
- Visualisation.
- Getting comfortable.
- Colouring books.
- Structure.

#### Negative Emotional Coping Strategies:

- Avoiding people.
- Crying.
- Chocolate.

#### Writing Tasks:

#### Positive Emotional Coping Strategies:

- Take less serious.
- Breaking it down.
- Starting early.

#### Negative Emotional Coping Strategies:

- Avoidance.
- Ignoring people.

#### Presentations:

#### Positive Emotional Coping Strategies:

- Music.

- Preparation.
- Preparation.
- Preparation.
- Breathing techniques.
- Resilience.
- Stop drinking coffee.
- Being tired to be calmer.
- Drops.

#### Negative Emotional Coping Strategies:

- Ignoring people.
- Red wine.
- Avoidance.

#### Organisation:

#### Positive Emotional Coping Strategies:

- Peace.
- Pen and pad next to bed to write down.
- Learning Chinese.
- Yoga.
- To-do-lists and plans.
- Therapeutic music.
- Work harder?
- Talking.
- Talking.
- Stepping away.
- Humour.
- Taking time.

Negative Emotional Coping Strategies:

- Coffee.
- Overreacting.
- Overthinking.
- Anger.
- Worry.
- Worry.
- Ripping material.

- Freeze.

Discussions:

Positive Emotional Coping Strategies:

- Asking questions to switch focus.

Negative Emotional Coping Strategies:

- Avoidance.

Note Taking:

Positive Emotional Coping Strategies:

Negative Emotional Coping Strategies:

- Breakdown.

**Appendix M: Consent Letter & Participation Form for  
Interviews**

Letter to Potential Participants

Amanda Jones

Doctoral School

Institute of Education

University College London

20 Bedford Way

London WC1H 0AA

Telephone: 020 7612 6285

Fax: 020 7612 6304

Email: [amanda.t.jones@btinternet.com](mailto:amanda.t.jones@btinternet.com)

13<sup>th</sup> April 2016

Dear xxx,

Re: - An Exploratory Study of the Voices of Adult Dyslexic Learners in Higher Education and their Experiences with Anxiety:

As part of the Doctor in Education programme at the Institute of Education, I will be conducting a research project that involves looking at students' different experiences with anxiety and with coping whilst studying at university.

I would like to invite you to be involved in the project. I very much hope that you would like to take part, but before you decide, it is important that you understand why the study is being done and what it will involve. This information sheet tells you about the work and I hope it will be useful.

Why is this work being done?

I am interested in the types of experiences that adult learners with dyslexia have with anxiety in the university environment. I am also interested in finding out about the coping strategies that are useful to deal with both university work in general and to deal with the anxiety. There is currently a wealth of published material on dyslexia during the school years, and whilst there is some work on university students with dyslexia, students experiences with anxiety and with coping strategies remains relatively under researched and undocumented. This study aims to address this gap.

What will happen if you choose to take part?

I will make an appointment to see you at a time convenient for you. During the appointment, I will undertake an informal, semi-structured one-to-one interview with you on your experiences with anxiety and with coping strategies. The interview questions will be asked for the purpose of obtaining information on the types of things that cause you anxiety and the coping techniques that you are applying to your university work and to deal with reducing the anxiety, i.e. the techniques that you find useful and helpful.

What will happen to the results of the project?

All information provided by participants will be kept strictly confidential and in the writing-up of the research participants will not be identified. The findings will enable a detailed account to be provided of the nature and causes of student anxiety and the coping strategies that are viewed to be effective and helpful techniques to deal with university work in general and also to deal with targeting the anxiety. I will be willing and available to give feedback on the results of the research.

What should I do next?

If you would like to take part in the study, please fill in the enclosed form and return by e-mail to [amanda.t.jones@btinternet.com](mailto:amanda.t.jones@btinternet.com). If you would like to discuss the research, or if you have any questions, please contact:

Amanda Jones

Doctoral School

Institute of Education

20 Bedford Way

London WC1H 0AA

Tel: 02083416829 Email [amanda.t.jones@btinternet.com](mailto:amanda.t.jones@btinternet.com)

#### 4: Participation Form

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An Exploratory Study of the Voices of Adult Dyslexic Learners in Higher Education  
and their Experiences with Anxiety:

I have read the information sheet about the research.

(Please tick or cross)

I would like to take part in the project.

(Please tick or cross)

For participants that would like to take part, I will be in touch shortly, to arrange  
a suitable time to arrange to have a meeting with you.

Thank you for your co-operation.