

**Factors affecting successful participation in the workplace by
adults with dyslexia: an interpretative phenomenological analysis.**

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Abstract

Background

Dyslexia is a life-long condition that impairs a person's phonological processing capability and, consequently, their ability to read and write fluently. It is known to make participation in employment difficult, with reports by adults of encountering discrimination, and facing hurdles obtaining and retaining jobs. However, some adults with dyslexia thrive in the workplace and are regarded as successful.

The prevalence of dyslexia amongst the workforce in the primary industries is believed to be higher than in the general population. The effects of dyslexia in this population has not been widely researched and no research has been published that examines how they participate successfully at work. Understanding these perspectives may identify appropriate ways of enabling this sector of the population to be successful as adults

Aim

This study sought to understand what adults with dyslexia, working in the primary industries in New Zealand, considered to constitute success in work and to identify factors that enabled them to be successful. It examined this issue from a strengths-based perspective, through the lens of those who have participated successfully at work.

Methods

A qualitative approach was used to gain understanding of the issues from the perspectives of the eight participants (five women and three men). Data was collected using semi-structured interviews and the verbatim transcripts were explored using interpretative phenomenological analysis.

Findings

Success was interpreted to be a sense of purpose. Three superordinate themes were identified: constructing and maintaining identity; connectedness to the world; and, the conundrum of time. Supporting themes were identified of the effective use of internal resources and external support.

Conclusion

Overall, the participants' stories were of resilience and inventiveness. Within each theme they described the challenges they faced and how they overcame them. They strove towards fulfilment of their sense of purpose and measured their progress towards this. Each was determined and persevered in spite of the difficulties encountered. Their challenges were exacerbated by the hidden nature of dyslexia and their greatest fear was to be exposed as something less than the norm. Hence, they developed effective means to pass as able, even though this added to the effort required to work successfully. A sense of identity was important to them and was maintained through various strategies, including a focus on their strengths, delegating work to others, and being in control of disclosing their dyslexia.

The themes of connectedness and time were used also to describe the effects of dyslexia. In a world based on the written word, they experienced disconnection from tasks, peers, organisations and world events. A 'conundrum of time' was described, in which the participants needed more time to complete tasks and then actually lost time by doing so.

Key facilitators for success were the way they deployed and used their internal resources, particularly perseverance and determination, and also the support they received. Effective support occurred when the participants recognised the need for assistance, worked out how to obtain it, and found someone they could trust to provide it.

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List of abbreviations

CI (Confidence interval)

ICF (International classification of functioning, disability and health).

IPA (Interpretative phenomenological analysis)

TEO (Tertiary education organisation)

Chapter 1: Introduction

1.1 Context for the research

This research explored the lived experiences of adults with dyslexia who were successfully employed in the primary industries of New Zealand. The primary industries, covering food and forestry production and processing, account for approximately 75% of New Zealand's export earnings and provide one in six jobs in New Zealand (Ministry of Primary Industries, 2015). Dyslexia, or specific reading disability, affects approximately 25% of those employed within farming (R. Smith, Conley, Smith, & Mcelwee, 2016).

Dyslexia is a reading disability that impacts on accurate and fluent reading and spelling (Mather, Shaywitz, & Shaywitz, 2013; Shaywitz, 1998). It can result in psychosocial problems and adversely affect employment outcomes. (Burden, 2008; Hellendoorn & Ruijsenaars, 2000; Tanner, 2009). However, some adults with dyslexia experience vocational success (Fink, 2002; Logan, 2009) and others, for example Sir Richard Branson, rank amongst the leading global business people.

1.2 My Background

Literacy has always been an important part of my life. I grew up in a household where books lined every wall, newspapers and books were read daily and word games were played frequently. My father and maternal grandfather were teachers of English and every generation of my father's family has been university educated since at least the 1500s (De Salis, 1934; Head, 1995a and 1995b; Roth von Jecklin, 1970). I have always been able to read and spell well and found reading to be a straightforward activity. Throughout my career, as a military officer, public servant or, latterly, as a teacher aide, I have chosen occupations in which my strengths in literacy have allowed me to flourish.

My wife and our three children have had very different experiences from mine. They all have dyslexia and have found reading and spelling to be frustrating and, sometimes, demoralizing. I vividly recall being shown a poem written by one child who was seven, in which each word was spelled incorrectly, and most were spelled phonetically, so it took almost an hour to decode it. At age ten another of my children wrote that English lessons were her least favourite class and as a twelve year old she fainted in the classroom when made to write on the whiteboard in front of her peers. At least one of my family has found it very difficult to manage the literacy requirements of her profession, necessitating the use of assistive technology. Dyslexia affected our choice of schools and, ultimately, country of residence, as we sought an environment in which we believed our children could thrive. Dyslexia has also influenced my work and, now, area of postgraduate research.

I have worked as a teacher aide and support person to children with autism spectrum disorder and dyslexia in a mainstream secondary school for boys for four years. I also work as a manager in an industry training organization, where we have found up to 50% of our adult trainees have literacy standards expected in children aged between 8 and 12 years.

In my experience, some children with dyslexia have found school to be challenging and exhibited symptoms of anxiety and depression and absence of motivation to learn, while others have not. These “others” have participated successfully, appeared to find strategies to overcome any limitations from dyslexia, and have gone on to participate well in a work environment. I have been curious as to why some people with dyslexia have thrived and others have struggled.

1.3 Research Aim

This study sought to understand what adults with dyslexia, working in the primary industries in New Zealand, considered to constitute success in work

and to identify factors that enabled them to be successful. It examined this issue through the lens of those who have participated successfully at work (i.e. from a strengths-based perspective rather than from a deficit perspective) and took a phenomenological approach to understand their lived experiences. For the purpose of this thesis, only work in paid employment was considered. Voluntary or unpaid work was outside the scope of the research.

1.4 Key Terms

Dyslexia

For the purposes of this thesis, I defined dyslexia in accordance with the American Psychiatric Association (APA) Diagnostic and Statistical Manual of Mental Disorders, 5th Edition. Dyslexia is a neurodevelopmental disorder that affects a person's ability to read and spell fluently (APA, 2013). It is characterised by difficulties with word recognition and poor de-coding. De-coding describes the process of translating a word from print into its units of sound (phonemes) (Dymock & Nicholson, 2012; Tunmer & Greaney, 2010). Diagnosis is determined with reference to a discrepancy between the person's actual reading and spelling ability from their expected ability, based on their intelligence and age. Severity of dyslexia is classified as mild, moderate or severe (APA, 2013).

Mild: The individual may be able to function well in school and at work with appropriate support.

Moderate: The individual will require intensive and specialized teaching and support services at work in order to be able to fulfil activities accurately.

Severe: The individual will be unable to learn without intensive support and even with this assistance may still be unable to complete tasks efficiently.

Learning Disabilities

Heterogenous conditions that affect academic performance in one or more categories, for example reading, writing or mathematics. Dyslexia is one condition included within the category of learning disabilities.

Primary industries

Industries involved in the production and processing of food and food products, and their ancillary sectors such as veterinary nursing.

1.5 Structure of Thesis

Chapter 2 provides information on the definition, diagnosis, aetiology and epidemiology of dyslexia. It also provides a review of past research into the impacts of dyslexia on adults at work, with a focus on factors attributed to workplace success. Chapter 3 provides an overview of the philosophy of phenomenology, on which the research investigation was based, and describes the interpretative phenomenological analysis method used in this study. The results from the research are described in Chapter 4 and a model of factors contributing to success is proposed. The findings and their consequences for practice and future research are discussed in Chapter 5.

Chapter 2: Background

2.1 Introduction

Dyslexia is a life-long neurological impairment that is characterised by difficulties with word recognition, poor spelling and decoding activities (Mather et al., 2013). It affects between 7% and 17% of the population (Shaywitz & Shaywitz, 2003). Some individuals with dyslexia report discrimination throughout their lives. Adults with dyslexia report difficulties with literacy and processing activities at work, leading to difficulties participating in and retaining jobs (De Beer, Engels, Heerkens, & Klink, 2014). Dyslexia is associated with lower self-esteem, higher incidence of depressive symptoms and less satisfaction with social relationships (Boetsch, Green, & Pennington, 1996; Tanner, 2009). Low literacy is positively correlated with lower economic outcomes for individuals (Earle, 2009). Conversely, some people with dyslexia are successful at work and studies have identified consistent psycho-social factors contributing to their success, for example an internal locus of control (Gerber, Ginsberg, & Reiff, 1992). However, dyslexia is more usually seen as negative in a work context and the factors contributing to successful employment are not well-understood (De Beer, Engels, Heerkens, & Klink, 2014).

There has been little research into participation in work or employment outcomes for adults with dyslexia (Reid, Came, & Price, 2008). Conversely, we know a great deal about children in educational settings. Of course, these children eventually become adults and will still have to manage the effects of dyslexia over their life-times, and the interventions used with children may not be appropriate as adults (Leather & Kirwan, 2012). Furthermore, there has been limited research into the workplace experiences of adults with dyslexia from their own perspectives and no research of this nature in a New Zealand context. Understanding these perspectives may identify appropriate ways of enabling this sector of the population to be successful as adults.

2.2 Historical context

The early writings of dyslexia raised a range of issues about the diagnosis, aetiology, epidemiology and interventions that continue to remain subjects of debate today. The term dyslexia, derived from the two Greek words “dys”, meaning impaired, and “lexis”, meaning to speak, was first recorded being used by Professor Rudolf Berlin in 1887 (Hinshelwood, 1896; Wagner, 1973). Dyslexia was used to describe when someone had difficulty “interpreting written or printed symbols” (Hinshelwood, 1896, p1452). At that time the term dyslexia was grouped with alexia under the term “word blindness”, introduced by Kussmaul in 1877 (Hinshelwood, 1896). Berlin, Hinshelwood and Kussmaul were all ophthalmic surgeons and so dyslexia was investigated from a visual perspective, though Hinshelwood believed that the difficulty with reading was not related to vision, but to visual memory (Hinshelwood, 1904).

The early case studies described a range of symptoms under the heading of word-blindness. Some were recognizable as dyslexia (for example, Hinshelwood, 1904 & 1907; Pringle Morgan, 1896). However the cases described by Berlin, when he first used the term dyslexia, were of adults who had suddenly been unable to read, having been competent readers previously (Wagner, 1973). Hinshelwood also described as a case of dyslexia an adult male tailor whose alcoholism had caused him to lose the ability to read (Hinshelwood, 1896).

Early case studies of dyslexia described similar criteria for diagnosis. The patient (as they were referred to at the time) had great difficulty reading and spelling, though was otherwise of average or above average intelligence, and displayed neither visual nor auditory impairment. As a consequence of their poor reading, the patients made limited progress at school, reported being ridiculed by peers and often had to repeat years of study (Hinshelwood, 1904; Pringle Morgan, 1896). Hinshelwood believed that the lack of scientific

understanding of cases such as dyslexia “is one of the most claimant wants in our present educational methods” (Hinshelwood, 1904, p1304). He also believed that the key to overcoming these reading problems was “patient and persistent training” (Hinshelwood, 1907, p1230) and he recommended teaching the children on their own, in “short and frequent reading lessons during the day without anything leading to exhaustion” (Hinshelwood, 1907, p1232).

Dyslexia was recognised as part of a continuum of severity of impairment, and was used to signify cases of less severe word-blindness, whilst visual aphasia was used to describe more severe cases (Wallin, 1921). Wallin (1921) reported that diagnosis required excluding factors of visual and auditory impairments and low intelligence, and poor teaching. Whereas Hinshelwood had relied on teachers’ assessment of intelligence, Wallin reported the use of standard tests to classify children. The aetiology for dyslexia was not clear. It was assumed that dyslexia was caused by lesions in the angular gyrus, possibly during birth, though cases of hereditary dyslexia were known (Hinshelwood, 1907). Incidence of word-blindness was reported as 4.48%, of which dyslexia represented 3.6% (82.1% of those examined for word-blindness) and visual aphasia 0.7% (Wallin, 1921). It was also believed that dyslexia affected males more than females in a ratio of 4:1 (Wallin, 1921).

In a manner similar to Hinshelwood, Wallin (1921) concluded his review of word-blindness with advice on appropriate teaching methods. I will quote his words because of their relevance today:

To conclude with a practical point, word-blind children who are not feeble-minded should be assigned to special reading disability classes, where various methods and devices of teaching may be tried. We shall find that some children will be reached by some methods, others by other methods, but when it has been shown that a child cannot be taught to read by the intensive application of various methods, teaching should be given orally.

In fact, one of the advantages of assigning a word-blind child to a reading disability class is that he may secure from the teacher's lips the instruction which fits his level of intelligence and which he cannot secure through the printed page because of his inability to read. The usual practice is to assign word-blind pupils to ungraded classes or special schools or to place them in the first grade...The oral instruction in a first grade or in a school for mental defectives [sic] would not fit the intellectual level of a word-blind but intellectually normal child of 10. His reading and intellectual needs can only be met in a properly conducted reading-disability class. We have frequently urged the establishment of an experimental class of this type in St. Louis, but the financial difficulties confronting the schools have prevented any action being taken in the matter. (Wallin, 1921, p.892)

The early studies of people with dyslexia identified impacts relating to self-esteem and participation in education (Hinshelwood, 1904; Pringle Morgan, 1896). They also identified challenges with tiredness and the need for adapting teaching and classroom management for the children with dyslexia. However, these studies also raised issues concerning diagnosis, aetiology and epidemiology that are debated today.

2.3 Classification of dyslexia

The clinical definition of dyslexia has remained largely unchanged from that used by Hinshelwood and Morgan - it is an unexpected difficulty in reading and spelling (Mather et al., 2013; Shaywitz, 1998). The difficulty in reading means difficulties with accurate or fluent word recognition and de-coding (American Psychiatric Association, 2013b; Pennington & Peterson, 2015). Reading is a process of translating print into a code from which the reader creates meaning (Tunmer & Greaney, 2010). Dyslexia fits a dimensional model, where the ability to read sits on a continuum, and reading disability is

at the lower end of the normal distribution of the population (Shaywitz, 1998; Shaywitz, Escobar, Shaywitz, Fletcher, & Makuch, 1992).

Characteristics of someone with dyslexia are difficulties with speed and accuracy of decoding of words, which affects the ability to spell and to read and comprehend quickly (Siegel, 2006).

In order to identify the dyslexic reader from the poor reader, three key diagnostic criteria have been developed (American Psychiatric Association, 2013b; Dymock & Nicholson, 2012; Shaywitz, 1998; Tunmer & Greaney, 2010):

- The reading difficulty is persistent. This excludes those cases where reading difficulty occurs after another medical event, for example stroke. Some of the early cases of dyslexia used by Hinshelwood were actually aphasia (Mather et al., 2013). Persistent also means lifelong (American Psychiatric Association, 2013b; Shaywitz, 1998).
- It occurs in a person who has otherwise developed normally. This excludes cases where reading difficulty has other causes, for example auditory, visual, intellectual or neurological disorder (American Psychiatric Association, 2013a).
- It occurs in spite of quality teaching of reading and literacy.

Diagnosis is therefore on the basis of a discrepancy model. The initial criteria used by Hinshelwood and Morgan focused on a discrepancy between a person's literacy ability and their overall intelligence or functional abilities. The challenge has been how to operationalize this discrepancy so that appropriate interventions can be used (Mather et al., 2013). Indeed, establishing criteria for identifying an educationally-important discrepancy, and hence to a diagnosis of dyslexia, has been contentious (Dymock & Nicholson, 2012; Elliott & Grigorenko, 2014; Mather et al., 2013; Siegel, 1989, 1991, 2006). Orton (1925) criticized the use of intelligence tests in his report on 15 cases of dyslexia. He suggested that the intelligence test

underestimated the cognitive abilities of the children because: the tests were standardized for typical students; the content of the tests relied on literacy skills that the students did not have; and the tests expected children to have acquired general knowledge through reading. Subsequent research has highlighted that the link between intelligence and literacy is weak, and that factors other than intelligence are better indicators of reading ability (Dymock & Nicholson, 2012; Ferrer, Shaywitz, Holahan, Marchione, & Shaywitz, 2010; Siegel, 1989). Also, the cut-off for differentiating between a poor reader and a person with dyslexia is somewhat arbitrary, meaning that some people with dyslexia may not have been diagnosed as such (Siegel, 1989). Notwithstanding these criticisms, the use of intelligence tests remained popular, though there has been a decline since the 1970s (Siegel & Lipka, 2008). Comparison to intelligence remains a key factor in diagnosis, but should be part of a broader assessment comprising quantitative and qualitative data (Mather et al., 2013).

The key criterion for diagnosis of dyslexia is poor phonological processing (Ramus, Marshall, Rosen, Lely, & Hall, 2013; Shaywitz, 1998; Stanovich, 1988; Tunmer & Greaney, 2010). The process of reading requires the reader to identify the phonemes that make up a word and decode them into sounds, which the person with dyslexia has difficulty doing (Shaywitz & Shaywitz, 2003; Stanovich, 1988). However, dyslexia appears to be heterogeneous, with no single phonological deficit (Heim et al., 2008; Pennington & Peterson, 2015). Ramus & Szenkovits (2008) reported on a series of tests conducted on French university students with dyslexia and found that the students' phonological representation was intact. They proposed that the phonological deficit arose as a consequence of task requirements affecting short-term memory and conscious awareness impacted by time-constraints.

Elliott & Grigorenko (2014) have proposed that the term "dyslexia" is no longer useful and should be replaced by the term "reading disability". They argued that because dyslexia exists on a continuum of reading difficulty, and lacks precise definition or categorisation, the term no longer serves a useful educational or medical purpose. They suggested that "dyslexia" has become

a meme, a unit of cultural transmission that serves to support social and political advocates, particularly to attract public funding, rather than supporting evidence-based interventions in education. The authors highlighted that the inconsistent inclusion criteria used in dyslexia research, for example the existence of arbitrary cut-offs of reading ability, made it almost impossible to identify precise criteria for categorisation of dyslexia. Consequently, they believed that findings from studies that compared dyslexic readers with normal readers were neither reliable nor valid in terms of distinguishing between dyslexic readers and poor readers.

North American research has tended to refer to “learning disability” or “specific learning disability” rather than dyslexia. Learning disabilities describe heterogeneous conditions that affect academic performance in one or more categories, for example reading, writing or mathematics. The most common learning disability, and most researched, is dyslexia (American Psychiatric Association, 2013a; Mather et al., 2013; Shaywitz, 1998).

2.4 Aetiology

Aetiology describes the distal cause of differences in a species (Pennington & Peterson, 2015). The aetiology for dyslexia is non-categorical, that is, the disorder exists on a continuum (Pennington & Peterson, 2015; Shaywitz, 1998) and the causes are multi-factorial, linked to genes and environmental risk factors (Peterson & Pennington, 2012). Dyslexia has been linked to nine risk loci (DYX 1- DYX 9), and six candidate genes: 15q21, 6p21, 2p16-p15 and 3p12-q12. It has also been linked to three candidate genes on chromosome 18, though this finding has not been replicated (Peterson and Pennington, 2012). In a study of twins, genetic influences were found to be responsible for more than half of the reading defects in twins (Wadsworth & DeFries, 2005).

Richlan, Kronbichler and Wimmer (2009) conducted a meta-analysis of 17 studies (595 participants) that used functional magnetic resonance imaging

(fMRI). They found that dyslexia was associated with under-activation of the inferior parietal, superior temporal, middle and inferior temporal and fusiform regions of the left hemisphere. They also found under-activation in the inferior frontal gyrus, accompanied by over-activation in the primary motor cortex and anterior insula. The fusiform gyrus forms part of the word-form area, suggesting that dyslexia is caused partly by impairment to the link between visual information and representation. Subsequently, they conducted a meta-analysis of 28 fMRI studies looking at cross-cultural findings (Martin, Kronbichler, & Richlan, 2016). Fourteen studies were in deep orthographic language (English) and 14 in shallow orthographic languages (Dutch, German, Italian and Swedish). The terms deep and shallow orthography, or the degree of transparency in orthography, refer to the relationship between the grapheme (written symbol) and the phoneme (sound). In shallow or transparent orthographies, the relationship between the grapheme and phoneme is one-to-one (Everatt & Elbeheri, 2008). They found consistency in brain processing across the languages, which supported the hypothesis that there was a biological unity of dyslexia. Overall, the studies found universal under-activation in the left occipitotemporal cortex (the visual word form area) and in the left middle, inferior temporal and occipitotemporal regions. However, there were some differences between people with dyslexia from deep and shallow orthographies in the left dorsal inferior parietal lobule. This difference requires more research.

However, there were weaknesses in the reported studies included in both these reviews. The quality of the studies included was not made clear and Martin, Kronbichler and Richlan (2016) advised that the studies were inconsistent in their inclusion criteria. In their review of the evidence they found that the deep orthographic studies had diagnosed dyslexia based on reading accuracy and speed, whereas in the shallow orthographic studies dyslexia was diagnosed based on slow reading fluency, which may have meant that the samples were heterogenous. The types of activities being used by the studies were also inconsistent.

There are still gaps in understanding of the aetiology. There has been no genome-wide study of dyslexia, and further investigation is needed of the risk loci that are shared with comorbidities such as attention deficit hyperactivity disorder (ADHD) (Peterson & Pennington, 2012). Elliott & Grigorenko (2014) reviewed the genetic research and concluded that although there had been some progress in identifying a genetic influence on dyslexia, the findings were often contradictory and, importantly, did not assist in creating a useful educational intervention.

2.5 Epidemiology

The findings on prevalence of dyslexia have been affected by the arbitrary cut-off in diagnosis (Peterson & Pennington, 2012). Prevalence has been found to be between 5% and 10% of the population in clinic and school samples and up to 17.5% in unselected population-based samples (Shaywitz & Shaywitz, 2003). Where the cut-off for diagnosis of dyslexia has been 1.5 standard deviations (SD) below the mean for reading achievement for age, the prevalence has been 7% (Peterson & Pennington, 2012).

For many years it was believed that dyslexia was more prevalent among males than females (Miles, 2006; Saunders, 1962). Current belief is that there is no difference in prevalence based on gender (Shaywitz & Shaywitz, 2003) and that higher incidence of males to females has been a consequence of referral bias (Siegel, 2006). However, the evidence has been contradictory.

Rutter et al. (2004) reviewed four epidemiological studies (Christchurch Health and Development Study, Dunedin Multidisciplinary Health and Development Study, the UK Office for National Statistics (ONS) Study and the England and Wales Environmental Risk Longitudinal Twin (E-Risk) Study) and found that the rate of reading disability was higher in boys than girls.

Table 1: Longitudinal studies of reading disability

	Cohort Size	% Boys with reading disability	% Girls with reading disability	Odds ratio (95%CI)
Christchurch Study	1265	20.6%	9.8%	2.38 (1.62-3.50)
Dunedin Study	1037	21%	7.9%	3.19 (2.15-4.17)
ONS Study	10438	17.6%	13%	1.43 (1.23-1.65)
E-Risk Study	2232	18%	13%	1.39 (1.04-1.86)

(CI – confidence interval)

In three studies (Christchurch, Dunedin and Environmental Risk) children were diagnosed as reading disabled if they fell in the lowest 15% of reading achievement distribution (non-intelligence related) and where reading performance was more than 1 SD below the predicted level based on intelligence test scores (intelligence related). In the ONS study, children were separated into two groups based on the severity of the reading disability (lower 15% and the lowest 5%). However, Share & Silva, (2003) found that the higher prevalence of males with dyslexia was caused by gender bias in reading scores. They used a sample of children from the Dunedin longitudinal study and analysed test scores obtained at ages 5 (n=991), 7 (n=954), 9 (n=955), 11 (n=925) and 13 (n=850). Results were reported for the analysis conducted on 914 participants' scores at age 11. They found that the intelligence quotient (IQ) scores were similar for boys and girls. Comparison of within-gender reading scores to combined-gender scores showed gender bias. They found that the predicted reading scores were consistently over-estimated for boys and under-estimated for girls by three points. This meant that in their study, the number of reading disabled boys was over-estimated by 23 and for girls it was underestimated by 16. When reading disability was calculated for each gender separately, prevalence was found to be 6.8% for boys and 7.7% for girls.

There has also been no evidence of aetiological reasons for a difference in gender. Wadsworth and DeFries (2005) tested 634 pairs of twins from Colorado, USA. Participation criteria were that at least one twin had to show evidence of reading difficulty based on reading test scores, psychological assessment or school observation and to have an IQ score greater than 90, without evidence of other exclusionary factor (a behavioural issue, or auditory or visual deficit). Participants were aged between 8 and 20 years, with a mean age of 11.5 years. Twins were tested for reading disability using reading tests (reading recognition, reading comprehension and spelling) and intelligence tests (Wechsler Intelligence Scale for Children, 1974, and the Wechsler Adult Intelligence Scale, 1981). The study found no significant difference between male and female genetic aetiology.

Jiménez, Rodríguez, & Ramírez, (2009) conducted a cross-cultural study of dyslexia and gender in Spain and Guatemala. Participants came from state and private schools in the Canary Islands (n=1048, 630 male: 418 female) and Guatemala City (n=557, 316 male: 241 female). Dyslexia was diagnosed for students having an IQ greater than 75 and a reading ability in the lowest 25th percentile. Although the study found a slight difference in the prevalence of dyslexia between countries (1.3: 1, Guatemala: Spain), it did not find any difference based on gender.

Where there are differences in prevalence between genders, these may occur because of referral rate. The influence of environmental factors on gender in relation to dyslexia is also unknown (Elliott & Grigorenko, 2014; Peterson & Pennington, 2012; Rutter et al., 2004).

Dyslexia occurs across cultures and different orthographic languages (Everatt & Elbeheri, 2008; Pennington & Peterson, 2015; Peterson & Pennington, 2012). In alphabetic orthographies, the transparency of the language (that is the degree of correspondence between the grapheme and phoneme) affects the severity of the dyslexia, so readers of English appear to be more affected than those of more transparent languages (Everatt & Elbeheri, 2008; Pennington & Peterson, 2015). In logographic orthographies

(for example Chinese) it has been suggested that dyslexia relates more to deficits in rapid-naming (a neuropsychological task involving quickly naming familiar items), morphological awareness (recognising morphemes, such as prefixes) and orthographic processing (accessing whole words from one's memory) than to phonological processing (the ability to manipulate individual speech sounds) (McBride-Chang, Tong, & Mo, 2015).

2.6 Psychosocial Impacts

People with dyslexia report adverse mental health issues, including lower self-esteem and anxiety (Burden, 2008; Riddick, Sterling, Farmer, & Morgan, 1999), though the different definitions of terms such as self-concept and varying inclusion criteria have led to inconsistencies in findings (Burden, 2008). In a study of 70 Australian adults with dyslexia, Tanner (2009) found that experiences of failure were common caused by “aspects of discrimination and social oppression including, but not restricted to, stigma, social isolation and exclusion, social categorisation and victimisation” (p789). Studies consistently describe people with dyslexia reporting lower self-esteem (Boetsch et al., 1996; Dåderman, Nilvang, & Levander, 2014); higher levels of depressive symptoms (A. Undheim & Sund, 2008; Willcutt & Pennington, 2000); less satisfaction with friendships and social relationships (A. M. Undheim, 2003); and externalising psychiatric disorders (conduct and anxiety disorders) (Carroll & Iles, 2006; Maughan & Carroll, 2006). Dyslexia has also been found to be a factor in drug abuse (Yates, 2013).

Psychosocial issues for people with dyslexia are experienced from childhood. Burden & Burdett (2005) reported on a mixed-methods study (n=50) in which they used a variety of questionnaires and semi-structured interviews to determine whether dyslexia inevitably led to feelings of learned helplessness and low self-efficacy. Their sample included boys, aged between 11 and 16 years, who attended a school for children with dyslexia in the United Kingdom. They found that although dyslexia was highly likely to have a negative effect on academic self-concept, it did not necessarily lead to

learned helplessness or to depression. In a study of 68 children aged 8 to 16 years with dyslexia in Scotland, Terras, Thompson, & Minnis (2009) found that global self-esteem was no different from the general population, although self-perception of scholastic competence was significantly poorer than for the general population ($p < 0.001$) (no effect size was reported).

2.7 Dyslexia and Māori

There has been little progress in addressing Māori disadvantage in the education system since 1960 (Potter, Taupo, Hutchings, McDowall, & Issacs, 2011). Furthermore, little is known about the prevalence and meaning of dyslexia for Māori (Waldie, Austin, Hattie, & Fairbrass, 2014). Indeed, the world-wide study of dyslexia has tended to focus on white middle-class children (Elliott & Gibbs, 2008; Pennington & Peterson, 2015). In a New Zealand context, it is easy to associate dyslexia as a condition affecting middle-class Pākeha children, because it is those children who have historically had the support and financial resources to obtain formal dyslexia diagnosis (Chapman, 1992). The Treaty of Waitangi has created obligations for the Crown in relation to improving wellbeing of Māori, which includes the removal of disparities in achievement. These obligations are expressed through three principles of partnership with Māori, protection of Māori and their tikanga, and ensuring participation by Māori (Kingi, 2007). In order to understand the challenges facing Māori with dyslexia, further research is needed to ascertain the incidence of dyslexia among Māori and the impact on them.

2.8 Employment Impacts

In vocational settings, a systematic review ($n=33$) identified that participation in work by people with dyslexia was affected by their ability to read and write, creating difficulties acquiring and keeping a job (de Beer et al., 2014). In nursing, dyslexia affected the ability to understand reports, complete records, manage workload and administer drugs (William Evans,

2015; White, 2007). The largest study of literacy in English-speaking nations (the International Adult Literacy Survey) identified consistently lower levels of educational achievement and employment for those with learning disabilities (Chapman, Tunmer, & Allen, 2003; Vogel & Holt, 2003). Chapman et al. (2003) reported that “little more than 10% of New Zealand adults with [learning disability] attain educational qualifications at the tertiary level” (p. 88); and that “16.2% of [learning disabled] adults were unemployed, compared to 4.8% of [non learning disabled]” (p88). Persons with dyslexia have historically been under-represented in tertiary education (Richardson & Wydell, 2003).

In New Zealand, higher literacy ability has been linked to higher earning potential and explained 30% of earning difference (Earle, 2009). People with low literacy have been found to be one and a half to three times more likely to have an adverse health outcome, compared to those with higher levels of literacy (Dewalt, Berkman, Sheridan, Lohr, & Pignone, 2004).

Successful Employment

Despite the evidence of the psychosocial impacts of dyslexia, there are many examples of adults with dyslexia have been successful at work (Fink, 2002; Logan & Martin, 2012). The Yale Center for Dyslexia and Creativity publishes a webpage listing examples of successful Americans with dyslexia, titled “An Index of Successful Dyslexics” (The Yale Center for Dyslexia, n.d.). However, there has been little research to understand factors contributing to workplace success for adults with dyslexia.

2.9 Experiences at work of adults with dyslexia – the literature review

I conducted a literature search in Ovid(AMED, CDSR, Embase, ERIC, MEDLINE(R), Nursing Database, PsychINFO, PsychEXTRA) and SCOPUS to identify research on the experiences and outcomes of adults with dyslexia at

work. While this was not intended as a systematic review, I followed a semi-structured approach to identification and evaluation of research on this topic. Search terms were used for three areas of interest: dyslexia and learning disabilities; employment; qualitative literature. (see figure 1 below). In addition, the reference list of all included studies was screened for other potentially relevant studies. For the purpose of this literature review I included studies that involved qualitative methods for the whole study or part of the study (in the case of mixed methods research), which involved adults with dyslexia or learning disabilities, excluding studies that focussed on people with other development disabilities, such as intellectual disability, and which reported on their experiences of employment.

Figure 1 Search terms

MeSH Terms	Qualitative studies	Work
<ul style="list-style-type: none"> •Dyslexia •Learning disorder 	<ul style="list-style-type: none"> •qualitative •ethno\$ •phenomenology\$ •live / life experience\$ •hermeneutic\$ •grounded theory\$ •narrative analysis •audiorecord\$ •taperecord\$ •videorecord\$ •thematic\$ •adj3 analysis\$ 	<ul style="list-style-type: none"> •Work •Employment •Vocation

Characteristics of the included studies

The search produced ten relevant papers from nine studies, one from Finland, two from Holland, three from the United Kingdom and four from the United States of America. Seven studies involved adults with dyslexia and two were of samples of adults with learning disabilities.. The characteristics and key findings from the included papers are summarised in Table 2, with critical appraisal of these studies presented in Appendices A and B. The findings from these studies are discussed in more detail below. First, the relevance of the studies to my research questions is assessed; then the

findings from the included studies are outlined; finally the key themes from this past research associated with success for adults with dyslexia are described.

Table 2 Summary of research articles relating to experiences at work of adults with dyslexia

Author and Year	Aim	Method	Participants	Key Findings	Relevance to the research question in this thesis
Articles about adults with dyslexia					
Bell (2010)	To understand what it was like to be an adult with dyslexia in the workforce	Thematic analysis - semi-structured interviews	Six adults from a UK town (3M: 3F)	Participants described a cycle of employment-related disadvantage, described as a game of Snakes and Ladders.	Results only provided for transition into and between jobs. No information on experience of success in workplace.
E Burns,	To understand	Narrative interviews	Six Finnish tertiary	Strategies: task-related;	Explores resilience in a
Poikkeus, & Aro (2013)	resilience strategies used by tertiary teachers with dyslexia	(semi-structured)	teachers (3M:3F) aged mid-30s to mid-50s	environment-related; use of social support; nurturing self-esteem.	profession that focuses on reading and writing.
De Beer, Engels,	To identify factors	Systematic review	33 studies, English,	Dyslexia affects many	Experiences of successful
Haerikens & van der Klink (2014)	facilitating and hindering participation in work by adults with dyslexia		Dutch and German languages. Studies from 1995 included in search.	functional activities and social roles, mostly negatively, including acquiring and keeping a job. Support of employers and colleagues was an important factor in work success.	participation in the workplace was not explored.

Author and Year	Aim	Method	Participants	Key Findings	Relevance to the research question in this thesis
Fink (2002)	How do people with dyslexia become very successful at work	Semi-structured interviews	Sixty highly successful adults (US based) aged 26 to 74 (mean age 45)	Identified factors for success: working in area of passion; persistence; using mentors;	Quality weaknesses affect relevance. Purposive sample of highly successful individuals limits applicability of findings.
Hellendoorn and Ruijsenaars (2000)	To understand the impact of dyslexia on the lives of a group of Dutch adults	Mixed methods using semi-structured interviews and correlations based on ordinal data	27 Dutch adults (M 12: F15) aged 20 to 39 years.	Job satisfaction was negatively affected by dyslexia. Support and positive coping were positively related to job satisfaction.	Limited relevance. Does not address successful participation in the workplace.
Illingworth (2005)	To explore the effects of dyslexia on working lives of nurses and health care assistants	Semi-structured interviews and interpretative data analysis	Seven adults aged 23 to 43 years	Identified barriers and facilitators to participation at work.	Limited relevance. Workplace experiences of participants not discussed. Strategies for success shown in a table, but not explained or discussed.
Logan & Martin (2012)	To understand how entrepreneurs with dyslexia led and managed their businesses.	Qualitative, semi-structured interviews.	10 adults from the UK	Use of people-centric team approach to leadership; using visual language to describe their visions; delegating to people with	Demographic detail of Participants not provided. Data analysis process unclear.

Author and Year	Aim	Method	Participants	Key Findings	Relevance to the research question in this thesis
<i>Articles about adults with learning disabilities</i>					
Gerber, Ginsberg & Reiff (1992)	To understand cognitive patterns of successful adults with learning disabilities	Retrospective interviews	Purposelful sample of 46 highly successful and 25 moderately successful adults from the USA and Canada. Mean age 45.5 years.	Model of vocational success developed comprising locus of control, internal decision-making and behaviours (persistence, fit with work and social support).	"Learning disability" not defined. Unclear who was included in this population.
<i>Two papers from one study about adults with learning disabilities</i>					
Raskind, Goldberg, Higgins & Herman (1999)	To understand factors that promoted or prevented success for individuals with learning disabilities.	Mixed methods (part of a longitudinal study)	41 adults from USA, mean age 32.1 years (same sample as Goldberg et al. (2003))	Predictors of success identified: self-awareness, perseverance, proactivity, emotional stability, goal setting and social support	Unclear whether related to dyslexia - definition of learning disability not stated,
and Goldberg, Higgins, Raskind &	To identify variables that predict successful outcomes for adults	Qualitative - ethnographic interviews			

Author and Year	Aim	Method	Participants	Key Findings	Relevance to the research question in this thesis
Herman (2003)	with learning disabilities				

Relevance

I evaluated the studies using the research checklists from the Critical Appraisal Skills Programme (CASP, n.d.), before considering the findings from these study . All of the studies identified above had only limited relevance to the research question posed in this thesis. Three of the papers from the USA (Gerber et al., 1992; Goldberg et al., 2003; Raskind, Goldberg, Higgins, & Herman, 1999) focused on participants with learning disabilities, providing limited information about who was included within this population. Although it has been reported in the past that 80% of the participants in studies of learning disabilities like these have dyslexia (Shaywitz, 1998), those three papers included made no reference to dyslexia or to the range of learning disabilities in their samples. Bell, (2010a) and Illingworth (2005) followed a qualitative methodology based on in depth interviews with small samples of adults with dyslexia. However, Bell (2010a) focussed her findings on the transition between jobs. Illingworth listed strategies being used by her participants to overcome their dyslexia in the workplace, but did not provide a discussion of these factors. De Beer et al., (2014) reported results from a systematic review of studies of adults with dyslexia in a tabular form, using the International Classification of Functioning, Disability and Health (ICF) to identify factors that studies had identified as relevant to participation in work. However, they provided only limited discussion about successful participation at work and did not draw conclusions about how these factors contributed to success in the workplace. Hellendoorn & Ruijsenaars (2000) made only passing references to levels of satisfaction with jobs experience by people with dyslexia, and again did not provide any discussion about which factors contributed to this satisfaction or how improved satisfaction was achieved.

Logan & Martin (2012) reported on interviews with adults with dyslexia who were successful at work, as entrepreneurs or in high status roles, for example in academia. Though this study had quality limitations (data analysis process was not clear, so the robustness of the findings was difficult to verify), it provided insight into factors that the participants identified as

important to their success in the workplace. One additional study (Fink 2002), ostensibly reporting on research into the experience of successful adults with dyslexia in the workplace, contained limitations regarding reporting on the study design. This publication provided insufficient information about how the research was designed and conducted, how participants were recruited, and how the data for the study was collected or analysed, which made extracting findings from the study questionable. However, the findings were consistent with those of Gerber et al. (1992). Leather, Hogh, Seiss, & Everatt, (2011) conducted quantitative analysis on survey responses from 168 adults with dyslexia in order to identify factors of cognitive processing that might be related to societal or personal success. A secondary aim of the study was to test one of the findings of Gerber et al., (1992) relating to cognitive functioning (control) as a key determinant of success. They concluded that their findings supported the finding of Gerber et al., (1992) that internal control was related to success.

Overall, it appears that there is only limited research exploring the work experience of adults with dyslexia who have been successful in the workplace. These limitations notwithstanding, the following discussion is a summary of the key findings from these papers related to the objectives of this thesis.

Findings from the dyslexia studies

Bell (2010) examined the experiences of adults with dyslexia during their transitions into work from education. She interviewed six adults (3 male; 3 female) aged between 32 and 51 years from the same town in England. The data was analysed for themes. The findings focused on the challenges faced by the participants in their work and that the effects of dyslexia limited their career development opportunities. Participants reported using adult literacy support to access the content of learning materials and to pass exams. However, feelings of low self-esteem undermined their attempts to achieve promotion in their work.

Burns et al. (2013) interviewed six tertiary teachers with dyslexia in Finland to understand the resilience strategies they used in their work to overcome challenges they faced. They grouped the strategies into four categories: task-related, linked to reading and writing; environmental, such as choosing to work in an environment that allowed them to utilise their strengths, for example practical ability; use of social support; and maintaining their self-esteem and self-efficacy, although these terms were not defined.

De Beer et al. (2014) reported on a systematic review aimed at understanding factors that facilitated and hindered participation in work. They defined participation using the ICF. Their review identified 33 eligible studies (17 qualitative and 16 quantitative studies), based on the following inclusion criteria: participants were from the working population aged between 18 and 65 years; the title of the article referred to the term dyslexia or learning / reading disability or disorder; the study was reported after 1995 in Dutch, English or German; and reported on the relationship between dyslexia and work.

De Beer and colleagues identified factors relating to participation in work and classified them as having positive or negative influences on an individual. The factors were classified using the ICF categories and the frequency of the ICF factor was calculated by summing the number of individual references.

The authors determined the level of importance to be placed upon a factor with regards to the frequency of it occurring in the studies, although there was limited discussion about the perceived importance by the study participants. They identified 318 factors, of which the most frequently reported were negative ones relating to difficulties in reading and spelling, feelings about dyslexia and acquiring, or keeping, a job. Positive factors included support from colleagues.

Although De Beer and colleagues identified multiple factors referenced in earlier studies, they did not report on what conclusions could be drawn from the findings. Nor did they identify how the factors hindered or facilitated participation in work.

Hellendoorn and Ruijsenaars (2000) investigated how adults in Holland experienced living with dyslexia, both in their personal and also their working lives. Twenty seven adults (12 men; 15 women) aged between 20 and 37 years were selected from respondents to an advertisement placed in a learning disabilities journal. Inclusion criteria were adult between the ages of 20 and 39 years, with a diagnosis of dyslexia. Data was collected through in-depth interviews which were audio-recorded and transcribed. The transcripts were analysed for categories and subsequently organised into six domains: living with dyslexia; experiences during elementary school; experiences during secondary school, tertiary education, vocational training and at work; family experiences; social and emotion; and self (self-concept, satisfaction and hope for the future). In relation to work, the authors reported that the participants felt they had to use greater effort than their peers to achieve the same levels of success. A majority also reported feeling judged on the basis of their disability rather than their strengths.

Findings from the Learning Disability Studies

The earliest published research that focused on success of adults with learning disabilities in work was that by Gerber, Ginsberg and Reiff (1992). The aim of their study was to understand how this group achieved vocational success, and to identify the factors contributing to their success. Participants were nominated by learning disability organisations across North America and 71 were selected for the study. Inclusion criteria were not identified in the article and only sample demographic data were provided, so it was unclear how many of the sample had dyslexia.

The participants were allocated into either one of two groups, either highly successful (n=46, mean age 45.5 years) or moderately successful (n=25, mean age 44 years). Success was calculated according to external criteria including income level, job, level of education, prominence in field of work and job satisfaction. Data was collected through 130 open-ended questions, with interviews lasting between 3 and 8 hours, and analysed using thematic analysis.

The degree of control achieved was found to be positively related to the level of success and was the key predictor of highly successful versus moderately successful people in the workplace. Control, in this context, was described as “making conscious decisions to take charge of one’s life (internal decisions), and adapting and shaping oneself in order to move ahead (external manifestations)” (p479).

Internal decisions related to motivation, goal orientation and re-framing. Motivation was expressed as a strong desire to excel, with the highly successful group expressing the desire in terms of a “fire”, whereas the moderately successful participants were more tempered in their desire. Goal orientation included conscious goal setting, for both the short-and long-terms. The moderately successful group consistently set goals to be achieved in a shorter period of time than the highly successful group and were more

likely to be diverted from achieving these goals. The third aspect of internal decision-making was re-framing, defined as “the set of decisions relating to reinterpreting the learning disability experience in a more positive or productive manner” (Gerber et al., 1992, p 481). The re-framing process was identified as including four stages: recognition of the impairment; accepting the impairment; understanding their strengths and weaknesses; and, fourthly, taking action towards the achievement of a goal. Gerber and colleagues identified re-framing as the “trigger mechanism for a successful learning disability experience”. (p 486). They suggested that failure to master re-framing would lead to learned helplessness.

The term “external manifestations” was used by Gerber et al. (1992) to refer to a set of behaviours described by the participants that the authors considered important in achieving success. Persistence was the external manifestation of strong desire and described a high level of resilience. The highly successful group took more risks and described greater resilience than the moderately successful group. The second factor was adaptability, described as “goodness of fit” with their environment. Goodness of fit was achieved when they were in situations where they could use their strengths and be successful. Key differences between the two groups were the degree of enthusiasm for their work and the level of self-control over their own work, for example being the boss. The third key factor was “learned creativity”, defined as “the various strategies, techniques, and other mechanisms devised by the successful adults to enhance their ability to perform well” (Gerber et al., 1992, p483). A large part of the creativity was displayed in their ability to manipulate working systems so they did not have to expose their weaknesses. Both groups used technology as an aide to adapting the environment to meet their needs. The authors believed that learned creativity was the hardest part of the model to acquire. The fourth factor was defined as social ecologies, meaning a network of support. Key supporters were spouses, friends and mentors. The moderately successful group demonstrated greater reliance on their support network than the highly successful group, whilst the latter group sought help more readily and were more accepting of help.

Interestingly, the ideas identified by Gerber et al. (1992) were later tested in a quantitative study involving just people with dyslexia. Leather and colleagues (2011) reported on their study that sought to determine whether Gerber's model could be supported by quantitative evidence. Their aim was to investigate whether cognitive and executive processes, in particular Gerber's concept of control, might relate to the success of adults with dyslexia.

One hundred and seventy five participants were recruited through third parties (organisations and dyslexia network groups). Self-reported data was collected from participants through a questionnaire administered online. Success was identified in two ways: as societal success (educational achievement, financial status and promotion at work) and also as personal success (job satisfaction and self-efficacy). Questions were also included about planning (goal-setting) and metacognitive awareness, and cognitive failure. Five-point Likert scales were used for the responses. Although the psychometric properties of the questionnaire were not discussed in their report, they did reference the inventories from which the questions were drawn.

The results showed positive relationships between the factors of cognitive functioning (planning and cognitive failure) and personal success (job satisfaction and self-efficacy). However, there was no relationship ($p < .05$) between cognitive measures and societal success (academic qualifications, financial status and promotion). Respondents who reported higher levels of personal success also reported more planning and fewer cognitive failures. Leather and colleagues concluded that these were aspects of internal control identified by Gerber et al (1992) and that therefore their findings supported Gerber's model that internal control was related to success.

Goldberg et al. (2003) and Raskind et al. (1999) both reported on data from a longitudinal study examining the success of 41 adults with learning disabilities who had attended the Frostig Center in California 20 years

earlier. Goldberg and colleagues (2003) reported on the qualitative data, whereas Raskind and colleagues (1999) reported on quantitative data. The authors did not define learning disabilities nor the number of participants with dyslexia, but all participants were reported to have had average or above average IQ scores.

Clinicians assessed whether the participants were successful (n=21) or unsuccessful (n=20) based on data from their interviews, public records, case records and academic testing of reading and mathematical ability. Success was measured in domains of employment, educational achievement, degree of independent living, health of relationship with family, community involvement and history of criminal behaviour. With regard to employment, the authors found that those who were successful at work tended to be employed in areas where they could use their strengths and avoided jobs that accentuated their difficulties. They were proactive in finding these employment opportunities. They also demonstrated perseverance in overcoming obstacles arising from their learning disabilities.

2.10 Summary of the key themes contributing to success

Success

Success was defined in different ways in these studies. North American and British studies have tended to define success by reference to status and earning. External measures of success have dominated and have included salary, status, academic achievement and pre-eminence in field. Three studies also included self-reported job satisfaction and self-efficacy as internal measures of success. None of the previous research invited participants to describe success in their own words, so we do not know what success might mean for an individual.

Persistence

Persistence has appeared in many of the studies as a key attribute for overcoming the challenges of dyslexia. Perseverance was identified as a key attribute for success by Goldberg et al., (2003), though tempered by people's flexibility to respond to failure by seeking alternative opportunities. Fink (2002) identified that her sample were driven by both curiosity and a desire to learn and that they succeeded through grit and hard work. Hellendoorn and Ruijsenaars (2000) found that the majority of their sample described themselves as persistent, describing themselves as people who would "persist, endure, survive" (p236).

Goal Setting

The learning disability studies by Gerber et al., (1992), Raskind et al (1999) and Goldberg et al. (2003) highlighted the importance of goal-setting as a characteristic of success, though this did not feature in the other studies. They described their successful participants as having "concrete, realistic and attainable" goals (Goldberg et al., 2003, p228) and effective strategies for achieving those goals. Conversely, their unsuccessful participants exhibited poor planning, had vague and unrealistic goals and no strategies to achieve goals.

Re-framing

Gerber et al., (1992) also identified the ability to re-frame the experience of learning disability as a key ingredient for success. The ability to do this required self-awareness, both of the impact of the learning disability and one's strengths and weaknesses. This finding was supported by Goldberg and colleagues (2003), who noted that their successful participants did not let their disability define them, instead acknowledging its existence and recognizing their talents and accepting their limitations. Entrepreneurs also used knowledge of their strengths and weaknesses as a basis to succeed

(Logan and Martin, 2012). Bell (2009) reported that some adults with dyslexia required assistance in identifying strengths and weaknesses and found that a self-help group was an appropriate forum for facilitating that process. Appreciation of weaknesses and developing effective coping strategies, particularly to address the emotional challenges, supported the emotional stability of the successful adults (Goldberg et al., 2003). Burns et al. (2013) reported that their participants understood their limitations and deliberately chose to work in areas in which they used their strengths.

Goodness of fit

The concept of goodness of fit between ones abilities and work choice was found to require good self-awareness. Successful adults deliberately chose employment that allowed them to use their strengths, whereas the least successful chose jobs that accentuated their weaknesses (Goldberg et al., 2003; Logan and Martin, 2012). Fink (2002) also found that her participants expressed an emotional connection to their work, and that passion for the area of work was a key factor in their ability to persevere.

Learned Creativity

The highly successful people with dyslexia in the studies by Fink (2002) and Logan and Martin (2012) were adept at developing strategies to enable their success. Participants in Fink's (2002) study worked in professions that required high standards of literacy achievement, so developing strategies for efficient reading were important. This included for a lawyer being able to quickly identify the key part of a judgment to read. Others described identifying sympathetic teachers who would recognise and reward effort and so be more likely to pass their academic work.

Use of support networks

The use of support networks was consistently reported as a key factor for success. Goldberg et al. (2003) found that the role of support changed over

the working life. During adolescence and early adulthood participants were more likely to use mentors or members of their family for support. However, ten years later (in Goldberg's study) they were no longer dependent on this support and had also begun to reciprocate, offering to help others, whereas the adults they classified as unsuccessful continued to rely on their support networks. Entrepreneurs were more directive with their support networks, using them as resources for delegated tasks (Logan & Martin, 2012). Parents were an important source of support from early life and often featured as advocates and were an important factor contributing to the individual's ability to overcome challenges arising from dyslexia (Hellendoorn & Ruijsenaars, 2000). Burns et al. (2013) found that colleagues were an important source of support in a work context.

Emotional challenges

The emotional challenges of dyslexia cannot be ignored. Although Gerber and colleagues focused on success, they acknowledged the "pain and agony, the trials and tribulations" (p486-7) endured by their participants in order to achieve success. In their systematic review, De Beer et al. (2013) found that negative emotions were far more likely to be reported than positive ones (17 out of 20 studies). In their study of the life experiences adults with dyslexia in Holland, Hellendoorn and Ruijsenaars (2000) reported that 25 adults from their sample of 27 still experienced emotional problems arising from their dyslexia, including anxiety, frustration, aggression and feelings of failure, and many were emotional during their interviews.

2.11 Justification for this Research

Dyslexia is a neurological impairment that has a life-long effect. It impacts on activities of daily living that involve literacy and limits participation in work. Whilst the psycho-social impacts have been documented at length (De Beer et al., 2013), far less is known about the lived experience of adults who participate successfully in the work environment. Research into success at

work has focused mainly on high achievers in a North American or British context. A model of success developed by Gerber and colleagues (1992) has been partially validated by Leather et al. (2012) and some of the factors proposed by Gerber have been identified in studies of a North American cohort (Goldberg et al., 2003; Raskind et al., 1998). However, the most informative studies of work experiences (Gerber et al., 1992; Goldberg et al., 2003; and Raskind et al., 1998) used participants from general learning disabilities groups, rather than those specifically with dyslexia. In none of the studies were the participants asked to explain how they described success at work, nor were their experiences analysed from a phenomenological perspective. It is also not clear whether the findings of the North American and European studies would be applicable in a New Zealand context.

A study of adults with dyslexia working successfully in the primary sector of New Zealand has not been undertaken. Dyslexia appears to have a higher prevalence in rural communities than the general population. Smith et al. (2016) reported that approximately 25% of agricultural students in Scotland have dyslexia. Similar prevalence has been reported in New Zealand (Farrell et al., 2016). Successful farming requires greater entrepreneurial approaches and dyslexia limits the effectiveness of farmers to manage their businesses (Smith et al., 2016). Limited research has been published about dyslexia in the rural economy. Database searches using terms “dyslexia” and “farming” or “agriculture” or “rural” returned only Smith et al. (2016) report on a research project.

Both Smith and Farrell report that adults with dyslexia experience anxiety. Farrell et al. (2016) reported on a New Zealand project to understand how farmworkers with dyslexia in vocational training could be better supported in training and in the workplace. The trainees reported negative experiences with formal education and were “emotive” during interviews. Both the trainees and their employers acknowledged that dyslexia could have an adverse impact on their careers. Smith et al. (2016) provided two short case studies from Scotland in which farmers with dyslexia reported that they

found the literacy demands of the business's operating environment were increasingly difficult to manage, although the farmers in their case studies had found strategies to overcome their dyslexia and to be successful.

Chapter 3: Methodology and methods

3.1 Introduction

In this study I set out to understand the lived experience of successful work from the perspective of adults with dyslexia. This study was set in the bi-cultural context of New Zealand, so required a research approach sensitive to the socio-cultural environment. A qualitative research approach was therefore appropriate (Yardley, 2000). Ethics approval for this study was granted by the the University of Otago's Human Ethics Committee.

Phenomenology has become increasingly popular as the basis for qualitative research in the health sciences arena, particularly in nursing, health psychology and social psychology (Dowling, 2007; Smith, 2011). The popularity derives from the focus of phenomenology on the experiences of the individual (Biggerstaff & Thompson, 2008). However, the use of phenomenology has created significant discussion and debate about methodology (Dowling, 2007; Pringle & McLafferty 2011). In part the different philosophical approaches to phenomenology have created this debate (Moran, 2000; van Manen, 2016).

Husserl (1859-1938) is usually credited with the development of phenomenology, though he built on the ideas of earlier philosophers and psychologists (Giorgi & Giorgi, 2011; Moran, 2000). Husserl was part of a European movement that sought to challenge the dominance of the positivist epistemological stance that the only valid knowledge was measurable objective knowledge, which originated independent of human interaction (Reiners, 2012). The focus of phenomenology was on experiences and the intuitive understanding of them (Moran, 2000). Husserl believed that understanding experience could only be achieved through pure description, which required researchers to bracket their existing beliefs and presuppositions, and he proposed a system of reduction to achieve this (Moran, 2000).

However, following Husserl there was a branching out of phenomenology. Husserl's former assistant, and later critic and opponent, Martin Heidegger (1889-1976), claimed that there was not one phenomenology (Moran, 2000). Heidegger rejected some of Husserl's key tenets; in particular, Heidegger claimed that the description sought by Husserl was merely a form of interpretation. Heidegger promoted a hermeneutical approach, in which the focus of phenomenology was ontological, or the study of "being". (Heidegger, 1927/2016). For Heidegger, the purpose of phenomenology was to uncover what made up "being". Gadamer, a student of Heidegger, developed hermeneutics as a form of interpretation and it was from his work that some of the health sciences uses of phenomenology are drawn (Dowling, 2007).

A more recent methodology has been interpretative phenomenological analysis (IPA) developed in social psychology (Smith, 1996). IPA seeks to be phenomenological by concerning itself with the experiences of individuals. It also claims to be interpretative in a hermeneutical sense, involving, in particular, a double hermeneutic that requires the participants to interpret their own experiences and the researcher to interpret the participants' reports of their experiences. Finally, it is idiographic, with a focus on the individual rather than on generalisation at a population level, (Smith, Flowers, & Larkin, 2009).

One common criticism of phenomenological research has been that authors frequently do not provide clarity about the philosophical basis of their research, nor the steps involved in their methodology, and that they seek to justify the scientific rigour of their work using positivist criteria (Dowling, 2007; Giorgi, 1997; Norlyk & Harder, 2010). Therefore, in this chapter I will place my research firmly within the hermeneutic interpretative school of Heidegger and Gadamer; identify IPA as the methodology to follow; and offer the quality criteria of Yardley (2000) as the benchmark for assessing the trustworthiness of the findings.

I also have obligations relating to undertaking research in the bi-cultural setting of New Zealand. Knowledge is tapu (sacred) (Mead, 2003) and must

be respected. Research (rangahau) has to be conducted in accordance with its tikanga (values). In particular, care has to be taken to protect the mana of the interviewees, distinguishing between information that can be revealed in the research and that which may not (Mead, 2003). Mead (2003) describes research as the expansion of knowledge “outwards (te whānuitanga), in depth (te hōhonutanga) and towards light (te māramatanga)” (p318). I believe that IPA is consistent with these aims.

3.2 Background to phenomenology

Phenomenology – philosophical and theoretical considerations

At least five distinct schools of phenomenology have been identified (Giorgi & Giorgi, 2011) and within health sciences research there are four main approaches that claim to be based on the philosophy of phenomenology (see: Dowling, 2007, for nursing; Giorgi, 1997 and Giorgi & Girogi, 2011 for psychology; Smith, 2009 for psychology; and van Manen, 1990, for human science and nursing).

Phenomenology is a philosophy concerned with the nature of phenomena (van Manen, 1997). For Husserl, phenomenology referred “to the totality of lived experiences that belong to a single person”, (Giorgi, 1997, p236). Husserl was interested in the intentionality of consciousness, in that consciousness was directed towards an object. His writing marked a break from the Cartesian philosophy of the duality of subject and object existing independently (Giorgi, 1997; Koch, 1999). Husserl wanted to identify the key parts, or essences, of consciousness. He used the term essence to describe the “*whatness* of things, as opposed to their *thatness* (i.e., their existence)” (van Manen, 1997, p177). In order to understand the uniqueness of experience, Husserl believed that prior knowledge should be suspended through bracketing (Giorgi, 1997; Reiners, 2012), although he struggled to define the process to his satisfaction (Moran, 2000). To bracket meant to “put aside or render non-influential”, (Giorgi, 1997, p243). Husserl also developed a process of reduction to lead to more precise findings (Giorgi,

1997). The reduction process comprised four stages: first, stepping back from things as they appear to exist; secondly, bracketing the world and not the empirical subject; thirdly, eidetic reduction, which reduces the experiences to their essences; and, finally, transcendental reduction in which the world and the subject are bracketed (Giorgi, 1997). The key step was in moving to the eidetic reduction, when the focus moved from the empirical (for example the factual) to the experiences (Moran, 2000). For Husserl, phenomenology was descriptive, “the task is to describe the intentional objects of consciousness from the within the perspective of the phenomenological reduction” (Giorgi, 1997, p241).

Heidegger (1927/2016) developed Husserl’s ideas, though his focus was on *Dasein* (being) rather than consciousness – “Our aim...is to work out the question of the meaning of *Being*” (Heidegger, 1927/2016, p1). Heidegger considered *Dasein* was both existential (ontical – concerned with an entity) and ontological (concerned with enquiry into Being), that is, concerned with what it means ‘to be’ (van Manen, 1997). Heidegger described phenomenology as “our way of access to what is to be the theme of ontology” (Heidegger, 1927/2016, p60). The task of ontology “is to explain Being itself and to make the Being of entities stand out in full relief” (Heidegger 1927/2016, p49). Whereas Husserl explained phenomenology as description, Heidegger stated that its purpose of description was to interpret (Heidegger, 1927/2016). Thus, Heidegger’s approach to phenomenology was hermeneutic. Heidegger also differed from Husserl in his approach to bracketing. Heidegger described the understanding of “Being” as having “a circular structure” (Heidegger, 1927/2016, p195). The circle was an expression of the existing knowledge (fore-structure) of an entity. Rather than bracket existing knowledge, Heidegger acknowledged that our understanding of phenomena depended upon our existing knowledge of it.

Gadamer provided insight into the concept of hermeneutics in his book “Truth and Method” (2013). Although he was writing about hermeneutics in relation to understanding of texts, his views have been the basis for phenomenological research (see Dowling, 2007; van Manen, 1997). Gadamer

identified that the task of hermeneutics was to clarify understanding (Gadamer, 2013). He described the process of understanding as an infinite cycle that moved from the particular to the whole and back again. As such, it was a process that could never produce a perfect interpretation. During the hermeneutic process, as well as understanding phenomena, or texts, the researcher also begins to understand his/her own prejudices, or bias. Thus Gadamer, whilst acknowledging Heidegger's concept of fore-structure, suggested that a researcher can only become aware of his prejudices whilst undertaking the analysis. Indeed, the process of creating and asking a question requires some existing understanding, or view, about the thing being studied. Therefore, the process of interpretation is not a neutral one. Gadamer (2013) also described the hermeneutic circle in four spheres: first, was the understanding of the whole from the detail, and the detail from the whole; secondly, was in positioning oneself in the perspective of the writer, so as better understand his or her views; thirdly, recognizing the historical and temporal nature of the interaction; and fourthly, recognizing that during the process of understanding, existing prejudices would surface and be replaced by more appropriate ones. Thus, the process of understanding creates tension between our understanding of an object now, compared with our historical understanding of that object. This becomes particularly relevant when seeking someone's views on their historic experiences – are they interpreting their experiences as they experienced them before, or as they understand them now?

Gadamer's hermeneutic philosophy has been widely used in nursing research. Another phenomenological approach widely used in nursing has been described as both Continental and North American (Dowling, 2007). Van Manen (1997) is one writer who has strongly influenced later developments in phenomenological research (Dowling, 2007). He had a continental European background in phenomenology and was influenced both by the German interpretative tradition (Heidegger) and the Dutch descriptive tradition (Husserl). Thus, his approach combined elements of both philosophical approaches. He described his work as hermeneutic phenomenology, "which aims at gaining a deeper understanding of the

nature or meaning of our everyday experiences”, (van Manen, 1997, p9). He wanted to find the essence of experience, though described essence as simply a description of qualities “that make it distinguishable”, (p.xv). He also adopted bracketing with a search for the uniqueness of an experience that was “as unbiased as possible” (p.xii). Van Manen noted the limitations of using language as the means by which to describe and understand experience, because language was “simply inadequate in describing experience” (p.xiii). He also explicitly described the relationship of phenomenology to culture, explaining that with the focus on lived experience phenomenology was sensitive to cultural influences.

IPA, the method of choice in this thesis, has two theoretical bases: phenomenology (a concern with the individual’s personal perception) and symbolic interactionism (focusing on interpreting meaning) (Smith, 1996). Smith, the creator of IPA, stated that his aim was to “explore the participant’s view of the world and to adopt, as far as possible, an insider’s view of the phenomenon under study” (Smith, 1996, p264). Therefore, IPA follows Gadamer in seeking to understand from the perspective of the actor. Smith believed that IPA was relevant because it allowed greater understanding of health status from the perspective of the individual. Using IPA would allow a psychologist to obtain “a rich account of how a person is thinking about, or dealing with, complex health-related questions” (Smith, 1996, p265).

IPA was derived from phenomenology because it focussed on lived experience (Shaw, Burton, Xuereb, & Gibson, 2016). It was hermeneutic “in its placing of meaning and interpretation at the centre of what it means to be human and what it means to do research” (Shaw et al., 2016, p3). IPA has also been developed to be idiographic, focusing on detail at the level of an individual. Because it is idiographic, findings cannot be generalized from the research in the statistical sense (Pringle et al., 2011). IPA can therefore be seen as following an interpretative approach to phenomenology.

Giorgi and Giorgi (2011) suggested that IPA was not a methodology, but an approach. They also believed that the focus on the idiographic “confuses

methods of research with goals” (p7). Smith (2010), responding to earlier observations from Giorgi, agreed that IPA was not prescriptive. He cautioned that methods do not in themselves produce good research (Smith, Flowers & Larkin, 2009). He viewed a method “as providing...a partial map of the territory which we wish to cross” (p855) and that the quality in IPA research depended on the proficiency of the researcher in a range of complex skills. The aim of IPA is to create a coherent account of a lived experience rather than a single truth (Pringle et al., 2011).

Eatough & Smith (2011) described a set of methodological principles for IPA:

- Research questions focus on lived experience;
- Use of small samples;
- Use of semi-structured interviews as the predominant method of data collection, with a focus on the dialogical where the participant leads the direction of the interview;
- Use of iterative analysis;
- Development of themes from the analysis;
- Inclusion of both the researcher’s and the interviewee’s meaning in the write up of findings;
- Having a narrative that moves between the particular and the conceptual.

The research question

The epistemology of the research question should determine the choice of research approach (Smith, Flower & Larkin, 2009). IPA, based in phenomenology, focuses on people’s experiences or understandings, and IPA research questions typically use words that reflect the researcher’s orientation towards the experience or understanding (Smith, Flower & Larkin, 2009). Smith and colleagues note that the researcher should avoid closed questions, whilst being wary that too open a research question would make the research unmanageable. In this thesis, the aim of the research was to understand the work experiences of adults with dyslexia and how they

described workplace success. Therefore, IPA was an appropriate approach, although the breadth of participants' responses to questions might create complexity in analysis.

Sample size

The idiographic nature of IPA suggests that small samples are needed and Smith has advocated for single case studies, though his advice for a Masters-level study is for a sample size of around three participants (Smith, Flowers & Larkin, 2009). The sample should be purposeful and homogenous (Brocki & Wearden, 2006). In IPA, participants are selected on the basis that they can "illuminate a particular research question, and to develop a full and interesting interpretation of the data" (Brocki & Wearden, 2006, p95). Although I set out to recruit a small sample, I found that further participants were required in order to develop greater insight into their experiences.

Participant recruitment. Following IPA methods, I used purposeful sampling to recruit a relatively homogenous sample for interview. People could participate in this study if they were adults with dyslexia, currently or previously working in the primary sector in New Zealand, who were participating successfully in the workplace. A participant was considered to have dyslexia if they had been diagnosed with it by an educational psychologist assessment or if they met the criteria for dyslexia from a tertiary education organization (TEO). I asked two TEOs to identify potential participants, who I then contacted to explain the research further and to invite them to take part in an interview. All potential recruits agreed to participate.

Choosing to interview adults with dyslexia meant that I had to be careful that the way in which I provided information about the research was accessible to them. Therefore, I decided that solely using written information was inappropriate. I created a presentation that used both visual and audio content to summarise the research project. It described the research question, the approach (interview) and advised the time needed and ethical

approval information. This was emailed to participants after first having made contact by telephone to confirm they were willing to participate. A transcript of the presentation is at Appendix C. The consent information was read to those participants who were not able to read it themselves.

3.3 Participants

Recruitment. Eight participants were recruited for the research. Five were identified by one TEO, two from a second TEO, and the eighth participant was recommended by a third party known to the researcher, using the process of “snowball sampling” (Sadler, Lee, Lim, & Fullerton, 2010). Characteristics of the participants are summarised in Table 3, and described in a little more detail below.

Table 3: Participant demographic details

Participant	Ethnicity	Age	Current Role	Co-morbidity (self-disclosed)
1	NZ European	48	Dairy farmer	Depression
2	NZ European	22	Assistant manager dairy farm	ADHD
3	NZ European	53	School teacher (primary)	
4	NZ European	30	Vet nurse / Tertiary education lecturer (vet nursing)	
5	NZ European/Israeli	27	Vet nurse student	Epilepsy
6	NZ European	59	Farm owner	
7	NZ European	25	Horse trainer and jockey	
8	NZ Maori	19	Farm assistant	

Participant One. Participant One had struggled with dyslexia all her life. Her characteristics appeared to meet the DSM-5 criteria for severe dyslexia. She had been educated in independent (private) schools. Leaving school at sixteen, without passing School Certificate, she worked in her parents’ businesses undertaking routine roles such as cashier. She was unsuccessful

in her attempts to join the police and subsequently she had worked as a store detective. In her 40s, with her partner, she started working on dairy farms, rising to management positions quickly. During this time she started studying dairy farming formally through industry training qualifications, and, whilst studying for her diploma, was diagnosed with dyslexia.

Participant Two. Participant Two was the assistant manager on a dairy farm, working for his mother. He had been diagnosed with dyslexia whilst at school. After leaving school he worked on dairy farms and studied farming through industry training qualifications. He had characteristics of moderate to severe dyslexia, including problems with arithmetic. He advised me that he had also been diagnosed with attention-deficit/hyperactivity disorder. He stated that his mother also had dyslexia.

Participant Three. Participant Three had grown up on a family dairy farm. She was educated at an independent (private) boarding school, which she enjoyed. Whilst at school she had known that she found spelling difficult, though this had not concerned her. However, whilst at teacher training college her spelling affected her study, and she required additional support. As a teacher affected by dyslexia she had chosen to work part-time with primary age children. She had characteristics of mild to moderate dyslexia. Her son had dyslexia as well.

Participant Four. Participant Four had also grown up on a farm and had completed veterinary nurse training at university and, after a few years working as a vet nurse, was now lecturing to vet nurse students at a polytechnic. She had characteristics of a person with mild dyslexia, and had particular difficulties with spelling. Her brother also had dyslexia.

Participant Five. Participant Five was born and educated in Israel, moving to New Zealand as an adult in her 20s, where she was studying to be a vet nurse. She had been educated in the public system in Israel, and had been diagnosed with dyslexia as a teenager. She had grown up in a bi-lingual household, though educated only in Hebrew. She had struggled through school, though

completed it, and then completed her military national service before moving to New Zealand. She had found the vet nurse course challenging and had chosen to study part-time having failed a paper. Her dyslexia displayed characteristics of being moderate. Her father also had dyslexia.

Participant Six. Participant Six had struggled through school and had not learnt to read or write. He had taken over responsibility for his father's sheep farm when he was sixteen. Later, he and his wife became dairy farmers, before he changed to sheep and beef farming, and ran a couple of farms. He was screened for dyslexia in his 50s.

Participant Seven. Participant Seven had been home-schooled for most of her education, having struggled to participate in junior school. She had slow processing ability and very limited ability at reading and writing. She had completed some formal industry training through one-on-one study with a tutor. She worked with her mother to manage an equine business.

Participant Eight. Participant Eight was educated at a boys' secondary school, where he was diagnosed with dyslexia (moderate to severe). He struggled to read and write, though managed to pass some national school examinations. After school he joined the New Zealand Army, serving on operations, before joining a dairy farm as a farm assistant. He had recently started to study dairy farming through industry training, and was given additional support with a laptop and adapted texts, with large font. He identified as New Zealand Māori.

3.4 Data collection

Semi-structured interviews have become the standard method of data collection in IPA studies (Brocki & Wearden, 2006; Reid, Flowers, & Larkin, 2005), though focus groups and diaries can also be used (Smith, Flowers & Larkin, 2009). The most appropriate data collection method will be the one that provides rich data from the participants (Smith, Flowers & Larkin, 2009). In depth, semi-structured interviews offer a good way of accessing

the stories and reflections from an individual: “one-to-one interviews are easily managed, allowing a rapport to be developed and giving participants the space to think, speak and be heard” (Smith, Flowers & Larkin, 2009, p1206).

The hermeneutic nature of IPA is also supported by the use of semi-structured interviews. During the interview the hermeneutic circle is created as the researcher tries to understand the experiences of the participant, while the participants is also trying to make sense of them. This understanding is achieved through the use of open questions and gentle probing, and allows the researcher the freedom and flexibility to explore unexpected areas (Smith, Flowers & Larkin, 2009).

Interviews are transcribed as a verbatim record (Smith, Flowers & Larkin, 2009, p1570). However, it is a semantic record of the interview rather than a prosodic one, so non-verbal aspects are not required to be recorded in detail (Smith, Flowers & Larkin, 2009). However, I did find some of the non-verbal elements important for making sense of the participants’ contributions to the research. For example long pauses and some physical gestures carried meaning, so I noted these contemporaneously during the interview.

A semi-structured interview was designed to elicit data from participants. An initial interview schedule for this research was developed and tested with a practice interview with an adult with dyslexia who was not otherwise involved in the study. This practice interview informed the construction of a final question schedule (Appendix D). Interviews were held at a location selected by the participant. The interviews were audio-recorded on two devices simultaneously to ensure data collection was successful.

All interviews started with an invitation to the participant to tell me about themselves. The flow of the interview was different for each interview depending on the initial information disclosed. Some participants started by narrating their life story (for example Participant 1) and others needed more prompting to disclose information about themselves. My interview

technique was based upon active listening (Talmage, 2016), so many of my comments were to acknowledge what the interviewee was saying. The interview structure aimed to cover facets of: their participation in the workplace; the factors that enabled them to be successful in the workplace; and, their experiences of dyslexia. I asked questions to seek more information about topics or to follow comments that appeared to me to provide greater insight into the research question. A first round of interviews was conducted between May and June 2015 (participants 1 to 5). Following these interviews, I revised my approach to focus more on how the participants defined “success” in the workplace. I conducted a second round of interviews between March and April 2016 (participants 6 to 8). On reflection, I was also more confident to let the interviewees speak for themselves during these interviews. All interviews varied in length from 15-90 minutes.

Table 4: Interview details

Participant	Interview Length	Note
1	48 mins	In four parts because of breaks to deal with work related matters. Location - home
2	38 mins	Location - home
3	1 hour 20 mins	In two parts because of break to cook. Location - home
4	45 mins	Location – work (study room)
5	1 hour 36 mins	Location – tertiary college (study room)
6	48 mins	Location - home
7	22 mins	Location - home
8	44 mins	Location – work (cow shed)

I transcribed all the interviews verbatim. Transcription took between four and six hours per interview, apart from interview seven, which was much shorter in length. Data that might identify the participants was removed from the transcripts (for example names of people or places), and the data

was stored on a password protected computer and password protected external hard drive.

3.5 Analysis

There is no prescribed approach to data analysis within IPA, rather a “healthy flexibility” is recommended (Smith, Flowers & Larkin, 2009, p1675). This freedom of approach is contained within a set of processes and principles that support the focus on the individual’s experiences and occurs within an overall process of “moving from the descriptive to the interpretative” (Brocki & Wearden, 2006, p97).

Smith, Flowers & Larkin (2009) offer guidance on the steps to take to analyse data using IPA. They suggest that analysis occurs using six steps that take the researcher from the individual account to all of the cases that contribute to the research data. However, in my research I was aware of ten distinct phases of analysis (see Table 5). From the completion of the pilot interview I was aware of a frequent and continuous process of analysis. Some analysis was structured, purposefully coding words and phrases; at other times it was a process of reflection, forming and re-forming themes; and on some occasions I was barely aware of the analysis occurring as words and themes would come to mind while I was involved in non-related activities.

Table 5: Phases of analysis

No.	Phase	Content of analysis
1	During Interviews	Immediate responses to content during the interview, influencing further questioning.
2	Immediately post interviews	Initial reflection on the interview content, identifying key and interesting themes or phrases.
3	During interview transcription	Analysis of words, phrases and themes. Writing notes beside the narrative.
4	Initial analysis of transcripts in hardcopy	Based on Smith (2009) analysing at levels of: descriptive, linguistic and conceptual.
5	NVivo coding	Coding each interview using emerging concepts

No.	Phase	Content of analysis
		from prior and ongoing analysis
6	NVivo coding hierarchies	Organisation of codes into hierarchies
7	Reflection	Purposefully setting aside the NVivo coding and allowing the themes to “bubble up”.
8	Questioning	Questioning the themes, seeking to understand the purpose behind the words being used.
9	Integrative themes	Discovering the integrative themes
10	Completing the Model	Creating a coherent model to explain the results

Phase 1 does not appear to be addressed by Smith et al. (2009). The other phases reflect their approach, though I have separated some steps into distinct parts to better describe my approach to the analysis process. References to a “Step” below means that I am referring to the stages of analysis originally proposed by Smith et al. (2009). References to “Phase” indicate my stages of analysis.

Phase One – During the Interview. Two approaches to analysis occurred during the interview. One was to note my initial response to a word, phrase, action or sound. It was, therefore, the conscious recording of a reaction, rather than conscious analysis. During the interview I made notes of questions to ask later in the interview or of content to be reviewed in more detail. The interviews were a dialogue and, as such, both my questions and the interviewee’s choice of what information to share shaped the direction of the conversation. The second approach to analysis was more deliberate, with my questions seeking analysis from the interviewee, as in this extract from the interviewee with Participant 6:

P6: “Um, I get a bit annoyed when I can’t stick it in paper, what I’m thinking. I’ve just got to remember what I’ve heard and come home and hopefully I can remember to say to [my wife] what I’ve learnt and how I’ve done that. So, yeah...I just let her know what we’ve been talking about, how things went. Um, yeah, I find it very tough some days. Just one of those things. Yeah, I mean, I don’t take a pen or paper with me, cos it’s a waste of time, yeah”

Author: “So what, those times when it’s tough, what keeps you going?”

The dialogue above took approximately 30 seconds. My question was not prepared. It emerged as an immediate response to what I was hearing. My question contained two pieces of analysis. The first was that the interviewee was talking about times that were “tough”. In this case I had probably recognised his use of the word “tough”. I then gave that word “tough” more meaning. This was clear from my question – “what keeps you going?” I had ascribed “tough” a characteristic of something that could prevent progress.

My question then led the direction of the interview. From talking about the impact of dyslexia, my question led the interviewee to analyse his own experiences in more detail. In this case he described the important role that his family played in helping him to overcome challenges. Thus we were collaboratively creating a hermeneutic circle of understanding.

Step one – reading and re-reading. The aim of this phase is to immerse oneself in the data so as to enter the participant’s world. At the same time the researcher is advised to note their recollections of the interview and their initial observations as a way of bracketing these from their analysis (Smith et al., 2009).

I found that the period immediately following an interview involved two separate pieces of analysis. One was my reflection on the interview process, acknowledging what had gone well and also areas in which I could have conducted things differently or better. For example, in my reflective journal following interviews one and two (which I conducted on the same day) I noted the interruptions that had occurred. The second piece of analysis was reflection on the content of the interview. Sometimes I found that I would recall particular words or phrases, or I would reflect on the mood of the interview.

I also found that the phase of interview transcription was a distinct period of analysis. During the process of transcribing the interviews, I was able to analyse both the words spoken and the way in which they were said. I also

used that time to “return” to the interview and to re-experience it. In that time I was able to gain a deeper understanding of what was being described. For example, in interview 6, I was struck by the onomatopoeia of the use of the word “stuck” when he described being “stuck in the low class”. It drew my attention to an experience that he found important, and which later shaped my theme of identity. During the transcription process I also noted words and phrases that I thought were important or noteworthy, that I could review later. As I progressed through the interviews, my transcription notes made links between interviews as well as within interviews.

Step two – noting (Phases 2-4). Although presented as a separate step, Smith advises that noting and commenting will occur during initial reading of the texts, as it did during the transcription process. The aim of this stage “is to produce a comprehensive and detailed set of notes and comments on the data” (Smith et al., 2009, p1771). They suggest that the notes will reflect analysis at three different levels: descriptive, linguistic and conceptual.

- Descriptive. It is important to note here that Smith’s use of the term ‘descriptive’ does not appear to be description within the phenomenological sense. Instead he uses the term to identify the things “which matter to the Participant” (Smith, Flowers & Larkin, 2009, p1792). At this stage this is about “taking things at face value” (Smith, Flowers & Larkin, 2009, p1803).
- Linguistic. The linguistic stage is concerned with the way in which each participant uses language, for example the use of pronouns or the presence of laughter in the narrative. Smith highlights the use of metaphor as important because it can lead to deeper understanding at the conceptual level. My example of the word “stuck”, above, would be at the linguistic level. During the analysis I did note many examples of laughter, which, when combined, highlighted the importance of humour as a sub-theme.

- Conceptual. The third stage is interrogative and interpretative, which leads to analysis at a more abstract level. Smith et al. (2009) suggested that during this stage, researchers would engage in internal dialogue, experiencing the hermeneutic circle as their prejudices became clear (see Gadamer above). Thus, as well as being an analytic stage, this would also be a reflective stage for me, where I reflected on the meaning of the text and also my pre-understanding and new understanding. For example, after the third interview my initial reflection was that the interviewee had exhibited a strong sense of empathy for others, and that was an interesting theme to look for in subsequent interviews.

Step three – emergent themes (Phases 5-7). At this stage of analysis the researcher moves from working with the transcript to working with his or her notes. It is at this stage that the descriptive and interpretative come together as the researcher develops themes that reflect his or her understanding (Smith et al., 2009).

I used NVivo (v11.1.1 for Mac) to code the narratives into themes over a four-month period. Initially each transcript was analysed separately and codes created. The coding was reviewed by the supervisor and differences discussed and changes agreed. There were twenty five separate codes, comprising 87 different subordinate codes. I coded some sections of narrative to more than one theme. Coding was of individual words, phrases, sentences or sections of narrative.

I created an initial hierarchy of themes before setting the transcripts aside to reflect on the narratives and what I understood from them. I had a sense of freedom at this point, unshackled from the mechanistic coding and was able to sketch a map of the superordinate themes that I felt best reflected the emerging analysis.

Step four – connecting the themes (Phase 8). In the previous stage there will be a series of possibly unrelated themes. In the fourth stage the researcher

seeks to link the themes in a structure that represent a coherent understanding of the text. The structure can then be represented graphically, for example in tabular form. One approach to this stage is to use abstraction, or identifying emerging themes, to create super-ordinate themes (Smith et al., 2009).

The output from step three (phase seven) led immediately into a subsequent phase. The themes that I had identified in phase seven were mainly verbs. Verbs generally require both a subject and object in order to make sense. I therefore embarked on a period of questioning to try and understand both the subject and object that were linked by the verbs. This process exposed more important insights to the analysis. For example, I had identified themes of determination and attitudes were important. But I needed to identify the object of their determination – “determined to do what?”. It became clear that they both were linked to the achievement of life goals. The question I then pondered was: if their focus was on life goals, where was it not focused? This line of questioning led me to appreciate that they accepted their dyslexia and set it to one side.

Step five – analysing the next interview. Each case should be treated individually, in line with the idiographic purpose of IPA. The researcher is asked to bracket previous analysis and analyse the new text for its own meaning. (Smith et al., 2009). I found this difficult to do. Having used NVivo to record the codes, it was difficult to ignore the existing codes when analysing the next transcript. It is likely that some of my later analysis was influenced by the previous work I had done. I tried to mitigate the influence by continually challenging myself about the interpretations I was making.

Step six – combining the analysis (Phases 9-10) . In this last stage the themes from each text are reviewed for their connections and differences. The aim is to create a coherent whole that provides understanding and answers the research question. During this stage the analysis may become more theoretical, as themes are linked into “higher order concepts” (Smith et al., 2009).

I completed this stage through writing and re-writing, bringing to together the themes of the participants' experience of dyslexia with the evidence from the coding to identify key themes. Whilst writing I continually asked myself questions so that I could understand the chain of consequences that flowed from the experiences. Finally, in Phase 10, I co-constructed a model with one of my supervisors to present the superordinate themes. This helped to clarify the relationships between the themes.

The Hermeneutic Circle. The interpretative approach within phenomenology involves the creation of the hermeneutic circle, moving from the whole to individual parts and back to the whole (Debesay, Nåden, & Slettebø, 2008). My analysis followed a flow, going from a focus on the whole of an interview to the detail of a single word or phrase, and then out to the entirety of all the data. The phases are described above as a sequence. However, although the initial flow of analysis of the early interviews moved sequentially through the first four phases above, the analysis then moved into a cycle that moved through levels of the hermeneutic circle from the whole to the individual and back to the whole, sometimes very quickly. Thus, the analysis for the last six interviews featured sequential analysis and concurrent cycling through all the phases of analysis and through all the levels of the hermeneutic circle.

3.6 Presenting the results

With IPA, the results of the analysis must be presented in enough detail to allow the reader to engage successfully in a hermeneutic dialogue with the text (Smith et al., 2009). The narrative describing the results must therefore contain sufficient detail for readers to make their own assessment of the interpretative analysis (Brocki & Wearden, 2006). Smith (2011) provided guidance on his criteria for good reporting on a IPA study:

- The narrative clearly demonstrates that the research applied the theoretical principles of IPA. Norlyk & Harder (2010) highlighted the importance of being clear about the philosophical basis of the

research approach, to help the reader assess the trustworthiness of the results.

- Transparency of the approach taken so that the reader can see clearly the steps of the research.
- Analysis that is coherent, plausible and interesting, and which is enlightening about the experiences being investigated – “the reader will feel engaged by a well-wrought, sustained narrative”, (Smith, 2011, p24). Smith’s (2011) description of good quality papers that met his criteria for interest included comments such as: “vivid sustained analysis” (p19); illustrating “the complexity, ambiguity and nuances in participants’ accounts” (p20).
- The presentation of the data and interpretation of it is presented in sufficient density. Smith (2011) described a rule of thumb for studies with a sample size between four and eight participants, that each theme should be supported by an extract of data from at least three participants. However, Smith et al., (2009) advised that criteria for defining recurrence of a theme is more likely to be based on pragmatic grounds, such as the product from the research. The extracts selected to support a theme should “give some indication of the convergence and divergence, representativeness and variability” (Smith, 2011, p24).

3.7 Quality Indicators

The diversity of qualitative research approaches, even within the sphere of phenomenology, makes it difficult to present standardised guidelines on quality measures for qualitative research (Yardley, 2000). Indeed, the epistemological foundation for qualitative research means “there can be no fixed criteria for establishing truth and knowledge” (Yardley, 2000, p217). The aim of IPA, after all, is not to create a single truth, but a coherent account of experience of a phenomenon (Pringle, 2011).

Smith et al., (2009) suggested using the criteria for assessing quality developed by Yardley (2000) to guide the quality evaluation of IPA research,

supplemented by independent audit of the process followed. Yardley (2000) identified four criteria: 1) sensitivity to context, 2) commitment and rigour, 3) transparency and coherence, and 4) impact and importance.

- Sensitivity to context. The qualitative researcher must be mindful of, and have a good grounding in, the philosophical basis of the methodology, which may provide useful insight into the matter being investigated. For the IPA researcher, this will mean sensitivity to the aims of phenomenology as well as following the guidelines developed by other IPA researchers. Yardley (2000) also sought sensitivity to the cultural context of the participants, particularly for understanding their narratives. Smith et al. (2009) identified the idiographic nature of IPA as being sensitive to the context of the individual. However, the application of socio-cultural fore-knowledge to help understand context has been a difficult issue in phenomenological research because Husserl required cultural influences to be bracketed (van Manen, 1997). Eatough & Smith (2011) highlighted that the social constructionist nature of IPA meant that the socio-cultural perspective of the participant is important to understanding how they expressed their experiences because, “when people tell stories of their lives, they are doing more than drawing on the culturally available stock of meanings” (p8). Therefore, I had to be aware of those cultural references during the interview and analysis processes. One example of this was Participant 1 referring to herself as the “Girl Friday”, which made reference to a Hollywood film of that name. In doing so, she was using a cultural reference, albeit an old one (the film was released in 1940), and possibly also alluding to the comedic nature of the film.
- Commitment and rigour. Researchers ought to demonstrate commitment through their development of methodological knowledge and skill. Commitment is described as immersion in both the topic being researched and also in the data collected (Yardley, 2000). Smith et al., (2009) seek commitment from the researcher to the individual participant and his or her story, shown through attentiveness in the

data collection and data analysis. Rigour refers to the completeness and thoroughness of the research process. Yardley describes rigour in phenomenological research as “demonstrated by the effective use of prolonged contemplative and empathetic exploration of the topic” (p.222), which mirrors IPA’s use of layered analysis. I have tried to demonstrate my immersion in both IPA and dyslexia in this thesis, particularly in Chapters 2, 3 and 5.

- Transparency and Coherence. Researchers achieve transparency through the detailed description of the data collection and analysis and presentation of the data and results. The test of transparency is whether the reader can understand and acknowledge the process followed. Transparency also refers to the degree of disclosure by the researcher of his/her fore-knowledge and bias, the process of reflexivity, so that the reader might determine how that affected the research process. In this thesis my fore-knowledge is outlined in Chapter 1. A study achieves coherence through the presentation of clear links between the data and the results. I have attempted to provide transparency through the description of the stages of analysis I undertook (see this Chapter, section 3.5), and by the use of extracts from the interviews to support the findings.
- Impact and Importance. Yardley refers to these two criteria as “decisive” in assessing quality. The results of the research need to “influence...the beliefs or actions” of others (p223). Smith, et al. (2009) require the research to “tell the reader something interesting, important or useful”, (p3685). Yardley also highlights the importance of the research impacting socio-cultural issues. In a New Zealand context, this applies particularly to the impact on understanding of Māori that the research brings. It is for the reader to judge whether I have met this requirement.

3.8 Reflection

Reflexivity by the researcher is a key element of demonstrating commitment (Smith, Flowers & Larkin, 2009; Yardley, 2000). Brocki and Wearden (2006) suggest that best practice for an IPA researcher would be to reflect on how his / her beliefs may have affected the interpretative process of analysis. They also encourage authors to make explicit their theoretical grounding and research interests to provide context as to why the research has been undertaken.

My interest in dyslexia, originating in the experiences of my family, has been outlined in Chapter 1. I am aware that my theoretical grounding and also influence on both data collection through interviewing, and subsequent analysis, has been affected by my earlier studies for a Masters in Business Administration and work as a therapist and coach. Both of these areas of interest drew on the theories of self-actualization proposed by Abraham Maslow and adopted in therapy by Carl Rogers (Thorne & Sanders, 2013), and in business by authors such as Stephen Covey (Covey, 2004). Looking through this lens I did not accept the existing theoretical basis for the research into success and dyslexia or learning disabilities that equated success to material wealth or status. That led me to look at success from the perspective of the individual.

The influence of Carl Rogers and person-centred therapy also affected my interviewing style, and therefore the data collected. One of Rogers' key principles was that the client would set the agenda for therapy. Thus I found that in my interviews, I offered interviewees the opportunity to take control of the direction of the interview. As my confidence increased I permitted the interviewees greater scope and in the last three interviews I was following more of an unstructured approach, rather than a semi-structured approach. The use of unstructured interviews is consistent with IPA (Eatough & Smith, 2011).

Finally, in relation to the interpretative process, I acknowledge that during that time I was reading Heidegger's work "Being and Time". Many of my journal notes at that time reflected ideas prompted by Heidegger's writing. Indeed, it is possible to find links in my notes between my superordinate themes of identity and time and Heidegger's concept of Dasein and his discussions of temporality. For example, I made journal notes questioning whether it was through support from "others" that my interviewees were able to be fully "in the world". In another journal note, I reflected on Heidegger's discussion of distinguishing "self" from "others" and how this process might be described in the interviews. It also encouraged me to look in greater detail at how the interviewees described their identities.

Chapter 4: Findings

4.1 Introduction

The participants' narratives were analysed to identify how they described workplace success, which factors contributed to their success, their experiences of success and the impacts that dyslexia had on their lives at work. They described success in terms of the achievement of life goals. The participants' experiences of dyslexia were described within three overarching themes:

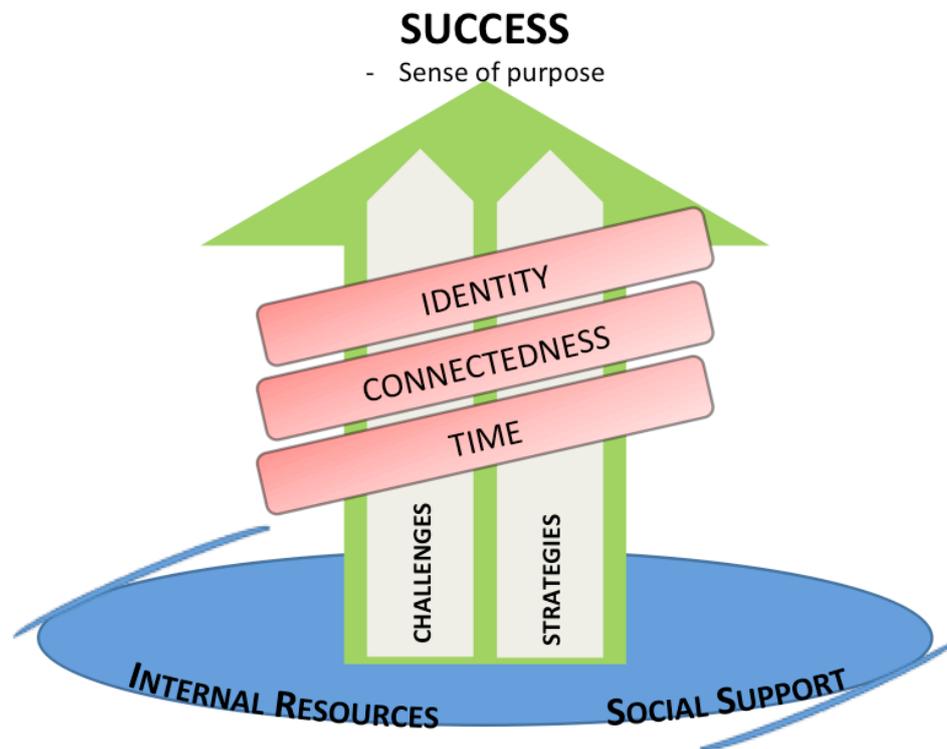
Theme 1: *Creating and maintaining identity*

Theme 2: *Connectedness to and within the world*

Theme 3: *The conundrum of time*

Within each theme the participants described the challenges they experienced and the strategies that they used to overcome the challenges in order to be successful. An integrative theme of support from others was very clear throughout the narratives and underpinned all their strategies for achieving success. Finally, their narratives highlighted internal resource that they drew on as they managed the impacts of dyslexia. See Figure 2 for an visual representation of the interrelationships between this themes.

Figure 2 Key Themes



4.2 Success

Success was interpreted to be a sense of purpose and measured in terms of the achievement of life goals and also shorter-term goals. A variety of life goals were described. Some participants defined their life goals in terms of owning property (e.g. farms) or reaching a career level. Others described a life goal as a purpose (for example, helping others). Some were able to describe their life goals clearly; for others, the existence of the life goals emerged only through analysis of their narratives. Achievement was described as the realization of the goal. Short-term goals included grades in exams or were task-related.

The participants in my study described their identities in ways that made reference to both potential and purpose. They all had a good understanding of their strengths and weaknesses, and used these to understand their

potential. They were explicit about their purpose. For example, Participant 5, talking of her aim to be a vet nurse, made reference to the idea of the desire to work with horses, which was grounded in her view of herself as a “caring person” and also her experience with horses. Participant 6 described working with sheep as “a passion”. The older participants described situations of self-realization, based on their experiences of dyslexia. For example, Participant 3 expressed affinity with children with disabilities and talked of a philosophy of enabling them to be successful at school, rather than being defined by their disabilities. Participant 6 talked of wanting to help others with dyslexia: “So, yeah, if I can help other people with it, quite keen to do that. Just talk to them, yeah”

The participants described their goals as existing along a “pathway” or life journey, either towards achieving something tangible, for example farm ownership:

“I really want to get up in the levels. I want to manage a farm by myself...and own a farm in the future when I’m old enough”
(Participant 2);

or towards something less tangible, such as helping others:

“I wanted to deal with horses...I would like to be at the end of taking care of them” (Participant 5, on her decision to pursue vet nursing).

The youngest participant (aged 19) claimed to have no clear life goal or pathway, although arguably he had already started to create one non-consciously when choosing a career path in dairy farming in preference to the military.

Success was something being strived for and driving all the participants. Some had very clear goals that were their motivation:

“[T]he end goal was, was there, was becoming an equine vet nurse and that’s what I want to do and that’s the goal that I am going to achieve” (Participant 5).

For others, the recognition of their goals became clearer over time:

“Now I know I had that goal, to get my own farm, and we’ve worked hard to get there” (Participant 6).

Life goals had a temporal nature. The goals changed over time, as some were achieved, or proved unattainable, and other goals emerged. Although the goals were initially expressed as belonging to an individual, for some who were older and in established relationships, the goals were expressed as shared. Some goals were also long-term:

A lot of people said “how long did it take you?” “Twelve years. Twelve years milking cows. And we got there, what we did milking the cows was to get enough money behind us to buy the first farm. So, that worked out really well” (Participant 6).

4.3 Theme 1 – Creating and maintaining identity

Although the participants had well-formed views of their identities as adults and were able to frame life goals in relation to these identities, their experiences with identity when younger were shaped by their dyslexia. When recounting their experiences at school, the participants used descriptions of themselves that provided insight into how they perceived their identities, both at that time as an adult and also looking back to their childhood. These identities were framed by the participants’ comparison of their experiences to their peers, and also by how others behaved towards them. There were themes of difference from the norm and of limitations.

There was a sub-theme of abnormality when, as children, the participants created their identities from reference to a lack of ability when they compared themselves to their peers or to an external standard (for example an examination): “You’re the dumbass in the class” (Participant 1). For others, the sense of abnormality as created through their presence in a class for children of perceived low academic ability:

“I was stuck in a special class when I was Form 2... back in high school I was stuck in the low class” (Participant 6).

Here the sense of hopelessness and permanence comes through the use of term “stuck”. For another, there was an association with abnormality through being placed with a teacher responsible “for dealing with people with disabilities” (Participant 5). Awareness of abnormality was reinforced when the children compared their academic progress to their peers and norms:

“I didn’t learn how to properly write until I was about six or seven. I had the reading age of about a four year old until I was about eight and a half. And then still struggling to read and write throughout my whole time in primary school...I couldn’t understand as much as anyone else usually could. I was a slow learner.” (Participant 8)

In this extract, Participant 8 has compared his literacy ability to a notional ‘proper’ standard, which he implied he achieved later than he should have done. He then used an age-related comparison to emphasise the discrepancy in his ability. Having learnt to write ‘properly’ he continued to ‘struggle’. The phrase ‘my whole time’ suggests that the impact of dyslexia was relentless – all-encompassing and consuming. He also identified that he was the only person set apart in this way – “I couldn’t understand as much as anyone else’.

The awareness of an identity that was abnormal occurred early in life and continued throughout school:

“I remember being called into the teacher’s office with my parents [at primary school]. They must have thought that *something was not right* (*author emphasis*) then.” (Participant 1).

Abnormality was also expressed through a sense of not belonging. One way this emerged in the interview data was in descriptions of not belonging within the classroom environment, e.g. “I [didn’t] like to sit in the classroom and listen to the [teacher]” (Participant 5). Participant 1 experienced a physical dislocation that emphasised her abnormality:

“[I was]pulled out of lessons, pulled out of German, French, you name it I was pulled out of it... went right through the system to fifth form and then was asked not to sit School C[ertificate].”

The use of ‘pulled’ highlights the physical, almost abusive, nature of her experiences of schooling. It was involuntary and suggested a lack of control that was reinforced by the analogy of the school as a ‘system’, implying the impersonal nature of this institution. For this participant, the abuse was real and affected her self-esteem:

“We had to take English, um, I used to get myself so worked up I used to dry retch and spew before I used to go to English lessons cos the teacher used to be a bit of a bitch and used to make me read out loud... Okay, so the other kids knew and they tried to help me through it, and the rest of it. So that was sort of how English knocked me around. Um, so then I reckon I was possibly even depressed at school.”

Again, the notion of being “knocked around” implies an experience of abuse. It also evokes a sense of helplessness, which her peers could only partially alleviate (“they tried to help me”).

The bleak experience of the classroom had a further impact on Participant 1, leading to her assuming the identity of a cheat.

“I used to copy people’s work at school, I used to cheat, um because I can’t, just can’t do it, you know, I’d be looking over their shoulder and, what else am I meant to do, at least I put something on the page.”

The change of tense in this sentence when describing these experiences (“what else am I meant to do”) was compelling. It was as though she had returned to that time and was re-living that experience. She continued by explaining some of her strategies:

“So that’s how I got – bluffed – through school, come whatever it may be [pause] I used to put things up my arms, cheating, you know like this [pulled up her sleeve] to remind me of something and [pause] yeah [pause] in tests and stuff.”

So this participant’s experience of dyslexia in the school system set her apart and forced her to become a cheat. She did not have a sense of belonging in that system. The sense of not belonging was also expressed by two other participants in relation to their ethnic identity when the impact of their dyslexia meant that they had to follow a path of learning that associated them as non-English speakers:

“I guess we learnt the mechanics of English almost like a second language speaker” (Participant 3).

The abnormality was a stigma that participants were embarrassed about:

“Cos, I mean, it’s embarrassing, I’d never tell people I didn’t know that I couldn’t, I couldn’t spell” (Participant 3).

“Mum’s given me the Smart Pen to use, I just find it embarrassing that’s all, like yeah, I find it embarrassing.” (Participant 2).

There was a second sub-theme of identity being affected by limitations created by others. Career guidance was based on others’ views of their

ability or disability. Recollecting her Principal advising against completing her final year of school, Participant 3 stated: "I probably wasn't that academic really. Because I remember my Principal...and he said to mum and dad 'oh if she gets accepted for nursing or teaching take it'. Cos he didn't see, I think he was politely saying like that me doing seventh Form, cos seventh Form was a lot more, you know, narrowed down". Similarly, Participant 6 referred to the experience of other people expressing their views about his capabilities: "And like I said, I was useless at school, 'cept for sport. And all the neighbours said 'you're gonna be a contractor or sheep farmer'" (Participant 6).

Participant 3 was encouraged to finish school before the final year, as was Participant 1. Participant 5 did finish her schooling, however that was in the face of tacit opposition from her school:

"... before I got sent to do my dyslexia examination [deep breath] this, the co-ordinator ...she told my mum that I would never finish high school and should just quit now."

Participant 3 recognized that being directed towards teacher training was framing her identity as something less than her peers, who were being prepared for university.

"And of course teacher's college wasn't really sort of seen as being, um, perhaps as academic, and like a tertiary institution like it is today."

Limitations were also created by the participants as a result of their experiences. For Participant 3, her experience in examinations at teacher's college, through feedback from scores, underlined her view of herself as not an academic person:

"And when I was nervous of course my spelling was much worse, and in exam situations, you know, I was super nervous, but probably...I

mean I didn't get As, I think B plus was the best I ever got, you know, *so I'm not really an academic person* (author emphasis), if you know what I mean."

She had internalized her experiences in a way that shaped her identity. She then framed her identity as a teacher in relation to the effect of the limitations from dyslexia. Dyslexia had created a "ceiling" for her career as a teacher:

"so I guess the limitation is that as a teacher my dyslexia probably, you know, like I have to be, to teach younger children."

Other participants also talked about how their identities were affected by the limitations that they placed on themselves. "I like talking to people about what I know without getting myself out of my limits," (Participant 1). So this participant recognized the impact of dyslexia on her and created a boundary around herself based on her assessment of her ability. However, she intended for the limitation to be hidden from others and used the boundary to protect her identity. An unintended consequence of this approach was that the actions she took to avoid disclosing her dyslexia affected her identity. When composing written communication in her role as a coordinator for a group, Participant 1 acknowledged that her use of English was "not girly" because she kept message short and simple:

"I know it's not detailed and girly and, you know, lots of information, so I just keep that very basic and, and I guess it's boring".

Thus, the effects of her actions to protect her identity as a successful farmer were actually to create facets of her character – not girly but boring.

Participant 6 also created part of his public persona through the steps he took to avoid disclosing his dyslexia. He described being withdrawn at meetings with his peers in order to hide his dyslexia: "But yeah, I like to sit

back and listen, I don't like to get up and talk. [laughs] don't like doing that at all. Yeah, I just try to hide if I can, yeah."

Creating Positive Identity

Although the participants' identities had been framed in terms of limitation and abnormality when they were younger, they created, or were in the process of creating, identities as successful people. There was a noticeable change in their narrative from the point at which they described taking control of whom they were.

Participant 1 left school and worked for her father in various businesses.

"Petrol station attendant for my dad, hands on work, not a lot of written work, using the till, you know charging stuff up, that type of thing. Girl Friday back in those days. Processed through other jobs that my dad had, other businesses"

The choice of the term "Girl Friday" was interesting. One origin was a film of the same name, released in 1940, which emphasised the resourcefulness and indispensable nature of the Girl Friday.

Her narrative then changed, when she described taking control of who she would be: "Then I decided to be a policewoman". Although this was ultimately unsuccessful because of her dyslexia, her narrative about her identity from that point showed that she was in control. From that point she also described a pathway of improvement and progress: "I was trying to improve myself", and "oh, just lots of general improvement that I was trying to do back in those days. And I'm still doing it."

Improvement occurred through undertaking learning, and ultimately through progress in the dairy industry with her partner, entering the industry aged in their 40s as dairy assistants and rising quickly to become business owners as 50:50 share-milkers (they supplied the cows and shared revenue and expenses with the farm owner on a 50:50 basis).

Other participants described the points at which they took control of their identities including: the decision to move overseas to pursue a career (Participant 5); to change from sheep farming to become a dairy farmer (Participant 6); and to leave the Army to focus on dairy farming (Participant 8).

The ability to frame an identity in a positive way was a useful strategy to reinforce identity. In her narrative, Participant 1 revealed other ways in which she built her identity as a successful person. An initial way was to re-frame setbacks, as not reflective of her, but to give them a separate identity. So, when describing how she did not gain entry into the police, she described the examination in this way: "*It (author emphasis) was a complete failure*". In her descriptions of herself at school she had assumed an identity based on academic ability. However, when talking about the police entry examination, she maintained her own identity to be separate from that of her academic performance. By giving the examination an identity she was able to frame the "failure" to belong to the examination and not to her.

The younger participants framed their identity at school, not in terms of failure, but in terms of needing appropriate support, or that literacy was simply a weakness:

"At school I just thought I was like, not like I'm a failure or anything, I just thought that ...um ...I just need a lot of help at school" (Participant 2).

Another participant saw herself as successful at school: "I think for me, the bottom line was I saw myself as a success and didn't let my disability hinder me", (Participant 3). As an adult reflecting on this childhood identity, she identified various contributing factors to her beliefs:

"[L]ike before you came, I was thinking about why have I been successful in the education system when, really, I probably shouldn't

have been, really...but I guess, um, probably, small, um small, small secondary school, extra support at secondary school even... Teachers that obviously saw me as knowing, as being a hard worker, um being articulate, verbally, so I could prove that I did know, I understood, say, *Wuthering Heights* or whatever. So, yeah, supportive school, supportive teachers, being um able to um talk a lot, ... Talk a lot and be a confident speaker. And I think probably a bit of good luck really and a bit of personality probably.”

This participant had noted certain characteristics that enabled her success: being a hard worker, being articulate and confident. These were summed up as a “bit of personality”. She ascribed the external factors to luck: small secondary school, supportive teachers.

“Supportive teachers” was further defined in terms of teacher expectations of her and her peers:

“I remember our deputy Principal, our Principal’s wife Mrs [name], [she] was passionate about girls and girls succeeding in education. And we never learnt typing at [school] because it was considered, I am sure Mrs [name] thought that we would be the ones um, we would have other people type for us and we would be the ones that would be dictating the letter...But I distinctly, that’s my memory of Mrs [name], was that we were, we were going to be successful, and we all came out thinking that we were going to be...well, I did, all my friends did I think.”

In this passage, she described an environment in which the clear expectation was that the girls were going to be successful as adults in the workplace.

In addition, she described friendships with clever girls in a way that their identity reflected on her: “I never saw myself as being different from [my friend], which clearly I was (laughs). She was going off to optometry school and I was going to teacher’s college” (Participant 3).

As adults, the participants described their identities in terms of what they did well. This appeared to be a conscious creation of identity. They chose to describe their successful selves. “So then I become a store detective, I did that for 5 years and I was very good at it,” (Participant 1). They also deliberately selected identities that reflected what they knew that they could do well. “I think the biggest thing was to recognize what your strengths and weaknesses are” (Participant 5).

When talking about her identity, Participant 1 chose what attributes to include, and which to exclude. These choices were based on an understanding about what she was good at, and what she could pass to others to do:

“I’m not saying I’m good at driving the tractor and loading the wagon. I can do it if I have to do it, but I leave that to the boys to do. I’m the cow person, animal health, people, um, yeah, delegating people to work to make our business successful”.

She was describing herself as the “cow person”, a role that she was good at, rather than as someone who drove the tractor. Thus, the participants were deliberately creating and maintaining their identities and retaining control of who they were.

Managing Challenges to their Identities

The participants experienced challenges to their identities as successful people. In these events they described their embarrassment and also the strategies they used to deflect or avoid the challenges. They sometimes avoided situations in which their dyslexia would be obvious to others, or they deflected potential challenges by disclosing their challenges with literacy through humour.

Embarrassment occurred on occasions in which participants were in circumstances when they had to make disclosure about their dyslexia involuntarily. The trigger for the disclosure was an inability to complete a task involving reading or writing. The disclosure was a challenge and demonstrated the care with which they maintained their identities.

“I remember being in the post office one day and having to fill out a form that I had to do and it had to be done quickly and they had to know the registration number and the colour and the road and all this sort of stuff, you know. And I panicked. I couldn't bloody do it, I couldn't spell um Hyderabad Road for goodness sake, Hyderabad Road. It begins with an H and it's got a Y in it somewhere and the Road was road. But, you know, there's a girl there and I'm 'can you spell that for me' and she's 'God [name], what's the matter with you, can't you', and I said 'no, I can't spell it, I want you to spell it, can you help me'. And I'm almost in tears trying to get this chick to write this bloody stuff down for me, and that's how bad it was if you're put in a situation, you're put on the spot, you freeze up” (Participant 1).

This passage clearly sets out the circumstances for an assault on her identity. The task required her to work at speed using multiple pieces of information that necessitated attention to detail. Then, the task was being completed in public, so she had no means of hiding, or passing as able. The challenge was exacerbated by both the girl's response to the request for assistance, which drew attention to an abnormality (“God [name] what's the matter with you”), and the age difference between the two of them – note the reference to “girl” and “chick”. So not only was she unable to do something that was routine, but she was being exposed by a younger person.

Participant 1 later explained the strategy she had developed for managing the impacts of her dyslexia on her identity as a successful farm business owner. She maintained control by delegating written and analytical tasks. In doing so, she described choosing how much to disclose to people about herself:

“I can’t work out dry matter calculations [feed for cows], paddocks. And that’s why [partner] does it...Working that out does my head in. I don’t want to know about it. That’s why I don’t do it...I just pass it on to someone else [deep breath] But do I have to do it? Cos they [farm owners] don’t need to know that I can’t do it. So there you go (laughs)”.

She also showed the internal dialogue that she had about the legitimacy of her decision, questioning whether the owners needed to know how she did her work.

The nature of the disclosure of dyslexia appeared to affect how much of a challenge it was. Participant 3 recounted two examples in her life of her dyslexia being exposed. One, as an adult, was a painful experience because it was experienced as an attack on of her professional identity.

Participant 3 talked of how she felt when a parent identified her weakness at spelling.

“I’m sort of quite a bubbly person, you know, and my personality gets me through a lot of things, you know. Because I suppose, I don’t know whether I am really an extrovert, but I’ve just always got along well with people and I guess my personality probably lets me away, away with, with things. Cos I mean, it’s embarrassing, I’d never tell people I didn’t know that I couldn’t, I couldn’t spell. But by, um, by making a sort of, not a joke of it, but by being upfront about it, it’s, it has um, you know, it has helped me. Um, I remember when (deep breath in) I was at [primary school], you know this parent, this would be between 1990 and 1995, you know a parent complained about my spelling and went to the Principal about it, and that, that upset me, because I’d sent home a list of spelling words and I hadn’t noticed that one word was spelt in- incorrectly, and this parent went, you know, got very irate

about it, you know, and that that upset me. You know I remember being in floods of tears in the Principal's office". (Participant 3)

The scale of the challenge to her identity from dyslexia can be inferred from her opening sentence – her personality gets her “through a lot of things”. Although the “things” are not described, the juxtaposition of “gets me through” and “a lot of things” emphasises that a continual struggle occurs. She has also acknowledged that she needed assistance to manage the impact of dyslexia: being upfront has helped her. The use of “upfront” indicates that her disclosure is an active strategy, in which she is in control of the decision to disclose her difficulty with spelling. The importance of control is underlined by the loss of control when a parent disclosed her spelling difficulty to her Principal. So not only had she exposed her difficulty to a parent, but it had then been highlighted with her employer. The passage also contrasts her view that the spelling error was a minor thing with the parent being “very irate”. So not only does she have a weakness with spelling, but that weakness made her more vulnerable.

She continued her narrative by explaining that the impact of the disclosure was on her identity as a teacher (her professional identity):

“[L]ooking back on it now, like, the parent was right but it was, you know, it was like an honest mistake. But she was quite, I remember, I can't remember what it was, but she was quite critical of me, you know *as a teacher (author emphasis)*, and I sort of took, took that to heart, if you know what I mean...” (Participant 3).

The reference to “heart” confirms that the challenge was to her core identity as a teacher. And the criticism was personal, she had no defensive mechanism.

Although Participant 3 described a more positive experience of school than other participants, her dyslexia was clear to others and she was identified by it. Her misspellings were written up on the blackboard as entertainment.

“I would confuse words, like I wrote instead of ‘the conception of an idea’ I wrote ‘the contraception of an idea’ in geography and that got written up on the board and everyone roared with laughter.”

(Participant 3)

And at her 21st birthday the speaker highlighted her difficulties with spelling, as a source of comedy: “the whole room explodes with laughter you know.”

She reflected on these incidents: “But, see, why is that? Why does everybody kind of laugh *with* me about not being able to spell and not *at* me (*interviewee emphasis*)?” She suggested that it was because of her “strong personality” and an “extrovert personality”.

So, for Participant 3, her school identity contained elements of humour. She continued to use that identity into her professional life, allowing children to turn her challenges with spelling into a comedy. “But by, um, by making a sort of, not a joke of it, but by being upfront about it, it’s, it has um, you know, it has helped me.” Participant 4 was also working in an environment in which her challenges with spelling were obvious (a tertiary education lecturer). She also chose to use humour to manage the challenges to her identity.

“So I always tell them at the beginning, you know, I’m not the best speller so feel free to proof read me, or maybe I’m just checking if you’re awake (laughs). So, but they love pointing out, you know, if you’ve done something wrong, that’s like yeah, the highlight of their day” (Participant 4).

The difference between the reasons for feeling embarrassed or not about dyslexia was shown through the narrative of Participant 8. He was not embarrassed to admit his dyslexia when seeking assistance for learning from employers. However, he was ashamed initially when his girlfriend noticed that he had dyslexia:

“I do admit, I was ashamed. Cos, like, I wasn’t expecting to read to her little brother to put him to sleep. And then when she walked in the room and heard me stuttering and pointing out the words to her little brother, he’s about ten, and I was getting him to read it, yeah, nah, that’s kind of shameful when your girlfriend walks in and goes ‘you can’t read can you’.”

So, his embarrassment arose when he was not in control of disclosing his dyslexia, and also when it affected the identity he wanted to portray to his girlfriend.

4.4 Theme 2 – Connectedness to and within the World

Participants experienced dyslexia by the way it impacted on their connectedness to and within the world. The lack of connectedness started from their difficulties to understand the written word, which impacted on their connection to new knowledge, then to making connections to their peers and to organisations and finally to the world. All participants recounted experiencing an inability to read or spell fluently and some also had difficulties with organization and retrieval of information.

“You can’t write down so you do dictation. You can’t write it down with the correct spelling at the time you need to. I don’t see words in my head when I write or pictures or anything, it’s just black”, (Participant 1).

Others talked of words jumping up and down on the page or blurring. The effect was that some of the participants could not, or did not read, and some did not write, or found spelling to be difficult. These experiences of dyslexia affected connections obtained through knowledge of events, learning, and communicating.

“It’s just black” suggests a void, or emptiness. This sense of isolation was also expressed by Participant 6: “I thought it was just me. I didn’t think there was other people out there the same as me”. He experienced the isolation because of his inability to connect to world events through reading about the news, or reading about his peers:

“I was just reading, going through a magazine there, a write up on my son’s rugby coach and his father. They did an article on him last year. And I was just going, try to read it, yeah, between the lines I can figure out what, what they’re up to, how many hectares they’ve got. Taken me years to learn how to do that.”

Although the phrase ‘reading between the lines’ is in common usage, in this case it emphasized that he was unable to read the words and had to work hard to make a connection to the story, and through that to make a connection with peers.

Participant 6 also described the challenge of connecting to new knowledge about new equipment through his process of learning: “the books that come out with the new tractors, new motorbikes, I sit there and just flick through and see what the diagram says and work it that way...Can’t read it but I look at the pictures” (Participant 6). He also described needing to rely on his wife and daughter to help him understand how to use technology that would connect him to the world, such as cameras and cell-phones.

The classroom or lecture environment was particularly challenging when participants found they were left behind because they could not take notes quickly enough. For Participant 5 the loss of connection was experienced as “falling”:

...before I used to be in a small class I used to be in a big class and I always used to fall in between um [pause] [sigh]”

The comparison between large and small classes suggests that her disconnection was about being lost among the crowd. The pace of the teaching undermined her further:

“If it’s not being able to write fast enough um to what the teacher was writing in the [pause] on the board, um, not being able to, um, and obviously not being able to remember everything that she was talking about during class, um, and not being able to take notes together with her talking and me listening.”

The acts of the teacher talking, the student listening, and the note taking are represented as three separate and disconnected activities. She experienced disconnection both in the classroom and then later, when she was unable to recall what had been said.

Participant 5 lost further connection to her peers when studying vet nursing because she had to re-take a paper and then study part-time in order to manage the volume of work.

In the workplace the participants struggled to connect to organizations or to other workers through written language. Connectedness was affected three-fold: first, report writing was difficult; secondly it took much longer to complete than for their peers; and, thirdly, they also found that they used more simple language than they wanted to avoid spelling mistakes. They managed the report writing by involving others to help them, collaboratively writing reports or seeking assistance with proof-reading.

Participant 1, describing her role as a coordinator for a voluntary network, talked of “being stuck in a rut” after a friend left and was no longer helping her with the communication requirements of the role, “you know I hate doing that because I don’t know what to say”.

Technology

Technology was a useful aide to connect to the world. However, technology that was based on literacy, for example Twitter, was less useful. Commenting on her use of social media, Participant 1 stated: “social media Twitter, don’t do a lot because I can’t spell it, scared of that.” However, she used Facebook because she was able to use pictures: “do a lot on Facebook...pictures, I like sending lots of pictures” (Participant 1). Using Facebook allowed her to maintain connections to a network of friends.

Participant 2 actively used social media as a source of connectivity to the world, accessing a knowledge network for his work: “I’ve actually had to ask one of those [Facebook] pages for how to get a calf that’s...breached and they’ve like rang me and talked me through it” (Participant 2).

Participant 1 recognised that her handwriting was not good enough as a means of communication: “I mean I can write on the board but I mean it just doesn’t come out what it’s meant to be. It just looks like a whole load of bloody chicken scratchings, doesn’t make sense [laughs]”. She used technology to address this limitation. “I can understand my own notes, but can I really read them when I get back [laughs] afterwards, I just throw them out, you know...um...so I’ve got that, and I use my cell phone. I take a lot of pictures, um, of say broken machinery. I use Skitch as a programme that this part’s broken and point an arrow to it and write serial numbers or something”. In this way she has found a means of connecting with her staff.

Technology was also used as an aide to learning. Participants 1, 2 and 8 had Smart Pens that they used to record teachers or to understand written communication.

“So the reading pen would actually scan a couple of lines of the document and then it would read it out loud, so if I didn’t have words I know I could just scan it, and if I could hear it then I would know what it meant” (Participant 1).

Here, the Smart Pen is doing the work, which created accuracy. Using the Smart Pens opened up connections with learning and the learning environment by allowing the participants to keep up with the pace of the teacher, and to be confident they had access to the learning material.

Technology was also being used to improve and give confidence in spelling, through cell-phones or through spell-checkers in software packages, “yeah, like reports, things in the job of teaching, report writing is a whole lot easier now because, you know, you’ve got the spell spell-checker [sic]” (Participant 3).

Participant 1 had extended the use of the Smart Pen as an aide in the workplace. She created posters containing instructions for operating machinery that workers could access using the Smart Pen. Interestingly she was exploring extending this idea further to multi-language instructions for international workers and students on her farm.

4.5 Theme 3 – The conundrum of time

The theme of time appeared through two sub-themes – as a developmental issue, over the life-time; and in relation to tasks. As a developmental issue, the permanency of dyslexia was recognized, “it’s obviously a life-time problem” (Participant 3) and experienced as a life-long battle, where progress was measured over a life-time:

“Taken me years to learn how to do that” (Participant 6, commenting on understanding an article).

Developmentally, dyslexia was measured in relation to the achievement of milestones. The participants recognised the time delays when they compared their progress to their peers, or, for one participant, when she was told as an adult to go “back” to school to learn English. For others, slower completion of education courses underlined their delayed achievement:

“Um, finished my first ever novel book at the age of I think it was sixteen. Age of sixteen. I know that a lot of people half my age can finish twice as much as that, but for myself that’s awesome” (Participant 8).

So in that case Participant 8 has described a four-fold delay in his achievement compared to his peers. He described how dyslexia affected the pace at which he could read:

“Um, at reading time over at [high school]... I had to take three books. And just say I’m on the first page, I cover up the top half. Say if you’re three lines down, with the second book you chuck it on the top two [lines] so you can’t see them, and with the other book you’ll chuck it on the line underneath so you can’t see it. And that just helps stop blurring out. So you’ve only got that one line to read. And you slowly work your way down the page.”

The process he described was slow and inefficient. It also required additional physical effort by taking three books instead of one and moving the books down the page as he read.

The time taken to complete tasks involving literacy was extended by the pace at which the participants were able to work and also the frequent checking of their work that they did.

“Whereas other teachers you know would have just written their reports, you know, straight onto, um, the report form. Whereas for me, you know, I always wrote them, ah, I wrote them out and then checked them, and checked them again, and got [partner] to check them and then put them on the report form” (Participant 3)

Literacy tasks took longer than for peers without dyslexia. The pace of working or of learning was affected by review and re-writing, or repetitive

checking of work, “going backwards and forwards”, and also processing speed:

“I used to check on myself all the time and yeah to see if I was correct” (Participant 5).

The process of checking their work was wasteful in terms of effort and time taken. And that ‘waste’ of time because of repetition was a common theme:

“Mum used to sit down and we’d learn my spellings you know every week, but I would just never retain it.” (Participant 4).

Participants also recognized that they would be wasting time trying to undertake some literacy tasks, so they avoided doing them.

“Yeah, I mean, I don’t take a pen or paper with me, cos it’s a waste of time, yeah” (Participant 6)

The narratives exposed a conundrum of time. Whereas an effect of experiencing dyslexia was that time was lost, because literacy tasks took longer than for others, so a strategy for managing this was actually to allow more time, for example extra time in examinations. The participants were then faced with having to assign extra time in order to be able to manage problems with time. Another consequence for some was that written tasks were undertaken during their “free time” away from work or when at school:

“Like at the moment I was up til midnight last night trying to get like marking. Cos it takes me a *lot* [*interviewee emphasis*] longer than the other lecturers, even though it’s my fifth year” (Participant 4).

The comparison to her peers highlighted that dyslexia was setting her apart from the norm and also described the developmental delay, working in this way in her fifth year of lecturing.

Management of Time

Time management was “*highly important (participant emphasis)*” (Participant 5) and time was actively managed by the participants. Some managed it through their choice of role. Other methods were to manage the allocation of time, and to manage the pace at which things were done. Although participants did not like wasting time, they recognized the value of spending time on things to achieve them:

“You would rather sacrifice five minutes to pass something than um to just fail and not know anything” (Participant 8).

Some created more time for themselves by working less than full-time. In order to be successful at work Participant 3 chose to teach part-time, which gave her sufficient time to prepare and review her work. Participant 5 chose to study part-time in order to manage the workload and Participant 1 devoted 8 years to complete a Diploma course that would normally be finished within 3 years.

A common approach to managing time when completing tasks was to identify the separate steps involved, “to be able to focus on one thing at a time”. Tasks would be broken down into smaller “chunks”. The focus assisted with avoiding feelings of being overwhelmed and also enabled participants to check on their progress. It also helped to avoid or to rectify mistakes.

Another strategy used by Participant 1 was to write a report in her own time, i.e. after normal work hours. To do this required her to manage the expectations of others as to when a work report would be complete, “so I would be on my own and have time to write it out” (Participant 1). Over time, Participant 1 identified a series of commonly repeated literacy tasks (e.g. the same phrases that needed to be used in reports). Here, Participant 1 would learn and use a list of the common words to speed up their work. Others used to employ people to complete work for them, recognising that it would be done faster than they could do it themselves.

When seeking support the participants explained how they would have to ask their supporter to “slow down” when spelling words or teaching new skills and knowledge: “even if I ask my husband ‘How’s this spelt’, I’m like ‘Slow down’” (Participant 4).

Participants viewed their progress ‘over time’. Reflecting on their experiences, the focus was on identifying that improvement was occurring. The timespan for their reflection appeared to go back from being adults to their schooldays, so their school experiences were used as the benchmark.

“When I was in high school I didn’t even like taking English classes to be coming and studying in Level 6 um studying is yeah quite an achievement for me” (Participant 5).

The time horizon looking into the future was also important. It was the time at which goals would be achieved. The participants held clear views of things improving over time. In this way, the timeline of improvement from past to future appeared to be continuous and ongoing.

4.6 Support

Foremost among the strategies for success was the use of support, and in particular, support from a significant person in their lives. A cycle of support emerged from the narratives. First, there was the recognition of the need for support, which was part of the acknowledgement of the effects of dyslexia. Then, there was the active choice to look for support. Choosing where to look for support, or from whom, was predicated upon the existence of trust between the seeker and the provider of support. This was followed by the request for support and agreement to provide support. Finally there was the actual provision of support. During school years the cycle was different, in that the recognition of need to seek or provide support was often made by adults, rather than by the individual, where having support “was something

that the school must have put in place” (Participant 3). Some participants recalled one significant event in the cycle of support. From these events we learn more of the cycle of support.

Participant 1 related struggling with her agriculture diploma study, and one night proved to be the turning point:

“I used to waste a lot of time, you know, I’d spent two hours doing one question one night and I thought ‘stuff this’. I’d just had, had a guts full. I threw the piece of paper on the ground and packed a real shitty.”

So this described a crescendo of emotion leading to the recognition of the need for support. She continued to explain how she found that support:

“I thought right this was, there has to be an easier way than that, and that’s when I went to [a tutor-mentor] and said ‘right I think I need some help’. You know, cos he had a disability as well”

Having become frustrated with her struggle (recognition of the need for support), she made a decision to take action (“there has to be an easier way than that”). It appeared as though one of her criteria for choosing that tutor to seek support from was that she identified that he also “had a disability”.

She continued:

“So he was really good and, so, yeah, that’s when I got help from Workbridge with Dragon Speaking, that scan pen or whatever and *just sort of went from there* [author’s emphasis].”

The phrase “just sort of went from there” underlined the importance of this event for this participant. It implied the unleashing of her potential, and it marked a watershed in her educational development, which lead her to completing agriculture courses including a Diploma, and then an adult

teaching certificate, and was also the point in the life where she began to be innovative in using technology. She went on to win an innovation award for adapting the use of a Smart Pen to the workplace.

Participant 6 also identified a key moment when, for him, seeking and finding support allowed him to have greater connectedness to the world. He had taken over responsibility for running his father's farm at the age of sixteen, and found that he was unable to read instructions for the drenching of the sheep. Unwilling to let his father know that he could not read them he sought assistance from a neighbour.

“I didn't stand back, I needed to know, so I went to other people. I didn't go to my father to ask the questions; yeah I didn't want to let him I couldn't read it. Um, the neighbour understood. I was straight up front, I said, 'I can't read this, can you help me with it?'. And she was really good.”

Here we can see stages of a cycle of support. “I needed to know”. This was the driver, which involved a self-recognition of the need for help. “I didn't stand back”. Participant 6 shows us here that he recognized two choices, to take action or not to take action. Choosing to take action allowed him to find support.

Selecting the source of support also involved making a choice. He chose to seek support from a neighbour, and not from his father. This was unusual in the context of the interviews conducted for this research. All other participants acknowledged that one or both parents had been active supporters, and no others mentioned choosing not to seek help from a parent. His relationship with his father surfaced later in the interview when he compared his own relationship with his sons' to that of his relationship with his father.

“I'm not penalizing [oldest son] like my father penalized me when I was younger. I've given him opportunities...If you penalize them

they'll probably bugger off and don't want to come back, so, like I did. I didn't want to go back after I got into dairying, back to the family farm. I don't want my kids to do that, so I'm trying to grow the farm better and for them".

He saw his father as someone who would penalize him. From this we can see that seeking support required the seeker to trust that the person he or she went to for support would actually provide it. In the same interview, Participant 6 stated that he was unable to tell his older brother that he had dyslexia and was unable to read. This was because he believed that the response from his brother would not be one of support, but one of superiority.

"I won't *ever* (*participant's emphasis*) tell my brother, cos he will just think he's big brother and, yeah, big brother's got one over his younger brother."

The comparison of "big" and "younger" and the reference to "penalising" introduced another aspect of establishing trust. This was the importance of enhancing identity. Trust had not developed, or had been removed, because of his perceptions about his father's and brother's beliefs about him and their effect on his identity.

Seeking help from a stranger provided further insight from this participant into the importance of trust in maintaining his identity when seeking support. Later in the interview, he talked about a stay in hospital following surgery and being asked to sign a form by the nurse.

"When I was in hospital the nurse wanted me to fill a form out and I said 'can you do that for me'. She looked a bit sideways and I said 'well I'm dyslexic' and she just did it."

Here the participant was faced with a situation in which he recognized that he needed support, and could either seek it or not at that point. He took

action immediately. However, he admitted that seeking help was not easy in this case: “It was a bit hard but, hard to ask”. He went on to make a link between seeking help being “hard” and the desire to maintain his identity: “I don’t like to do that. I don’t really want to tell everybody that I’m dyslexic.”

Comparing the reaction of the nurse to that of his neighbour when he was sixteen also provides insight into another element of effective relationship of support – unquestioning assistance. The nurse gave qualified support: “she looked a bit sideways”. However, the neighbour “was really good.” And “just showed me what I should be doing”. The response of the neighbour was to provide the support asked for, without questioning. Whereas the nurse, through her movement, questioned the request for support.

The initial experience of seeking and receiving support from the neighbour was also a pivotal experience for Participant 6, because it marked the point at which he connected with the world: “Yeah, just reading things, I pushed that aside and, when I learnt that my neighbour would help me, *that opened up a lot of doors to me*” (author’s emphasis).

Another pivotal point in his life was meeting his wife. “I’ve got a great wife. So I’ve been lucky. She helps me a hell of a lot”. And later in the interview, “I’ve done hell of a lot. Yeah, and meeting [my wife] was the best thing in my life, so, yeah, she’s helped me a hell of a lot, problems and that”. He described their working lives as integrated, with shared goals and successes:

Interviewer: “So you’ve built up two or three businesses over the course of your time in farming.”

Participant 6: “Yeah, since I’ve been with [my wife]. Yeah, yeah. “

At that point he attributed the success in his life to being with his wife. Later, in response to a question about what helped him to be successful, he was unequivocal: “Good wife (laughs)”.

For Participant 3, the recognition of needing support came when she went to teacher training college. During school she had not been worried by her difficulties with spelling “I was quite a jovial sort of person and not being able to spell didn’t, I didn’t let it worry me, if you know what I mean”. But her initial experience at the tertiary college was different:

“And then when I went to teacher’s college, um, it was funny, at teacher’s college it was more I couldn’t write an essay, so I had very poor um, like, you know, structure of sentences, sentence structure and things, and I remember being mortified in the first year that I got two out of ten for an essay that I’d written”.

Here, for the first time in her life, she was left believing that she was unable to do something academic. Although she was very aware of her challenges with spelling during school, she had never regarded that as an issue. Her feeling of mortification contrasted with her responses at school to her spelling challenges, when she was able to laugh at her experiences, and where she had identified herself as “quite academic”.

She went to her lecturer, whom she described as “really nice”. “I remember him teaching me how to actually write an essay, and after that, um, it was, um, I knew then *how* to, you know, *how* to write an essay (*participant emphasis*)”. Here the level of trust had been established with reference to the lecturer being “really nice”. It was also an important point in her life because it gave her the skills to be successful qualifying in her chosen career.

Participant 8, the youngest interviewee, described not only seeking help, but also explained how he ensured he received the help in a way that was useful to him. He talked about learning a trade in the Army.

“When I was doing an armourer, being an armourer, yeah they showed right in front of everyone, and nine times out of ten everyone would go ‘yep, yep, yep I know what to look for’. And I put up my hand and said ‘Hey Sir I need you to come over to here to explain it to

me personally, and you're going to have to show me how everything's done".

From this exchange we learn that he understood his weaknesses compared to others. He also chose to take action, in spite of being the odd one out, and was able to be explicit about the assistance he required and the way in which the other person would have to provide the support. He displayed insight into his need and his learning style. He also had a high level of confidence, being able to tell someone more senior in a military setting how they had to behave in relation to him.

Reciprocity

The older participants described the completion of a cycle of support, in which they had moved onto providing support to younger people with dyslexia, or other needs. They expressed a sense of satisfaction from these activities, which also pointed to an underlying belief that they held of the value in helping others.

" You know, again it's that whole thing of you've got this, I've got dyslexia, I've got through the education system, and now I can give back by helping kids be pro-active and just surrounding themselves with the right support, you know, to carry on" (Participant 3).

" Yeah, but one of [wife's] workmates, her daughter's been diagnosed dyslexic, so I talk to her about it, and she tells me what's going on...So, yeah, if I can help other people with it, quite keen to do that. Just talk to them, yah, get they're not the only ones." (Participant 6)

4.7 Internal Resources

The participants' descriptions of their experiences of dyslexia highlighted the life-long nature of the challenges they faced. Yet, in spite of the challenges, the obstacles and the frustrations, these participants were successfully

fulfilling their life goals or progressing towards them. They described a range of internal resources that they drew on whilst they overcame the challenges they faced.

Determination – “I’ve taken it, I’ve faced it and I’ve finished it” (Participant 5)

The participants expressed determination to achieve their goals and to overcome challenges. It was a force that motivated them to take action and it was a force that sustained them when they encountered challenges – “to keep going forward” (Participant 4).

Participant 5 experienced setbacks with her vet nurse diploma studies that delayed the achievement of her goal to be an equine nurse. First she “failed a paper”, which meant she had to re-take a semester of study. Then, finding the volume of study difficult, she chose to study part-time. However, she was determined to finish her study, “I’ll finish it at the end”. The determination came in part from her goal orientation: “I want to become an equine vet nurse and that’s what I will do”. She recognized that determination was also an aspect of her character – “I would say that I am a little bit of a fighter”. That character was a source of strength when she was completing school and also achieving entry into a particular role in the military even though she had at first been turned down because of her epilepsy, “at the end I got yeah to where I wanted to be”. Participant 6 also used the fighting analogy to describe his relationship with dyslexia: “Cos it’s been, what, 59 years, yeah 50 years battling away at it”. And that battle was not easy:

“Yeah...getting back to the reading side of it, I just want to, um, like I said, I’m battling away there trying to read a book, but yeah, it’s still hard, still damn hard”. (Participant 6).

Action Orientation

All participants described themselves as taking action, to overcome challenges and achieve success. Taking action comprised stages of choosing to “take control” or responsibility of the situation in which they lived and then of “having a go”: “If you never have a go you’ll never get it right” (Participant 6).

Whereas school life was dominated by stories of being the subject of action, on passing into adult life the participants’ narrative changed to one of assuming control or ownership of their strategies:

“At the end of the day I think you need to find your own, your own way and your own, yeah, your own tools and overcome difficulties that you yeah that you face” (Participant 5).

The concept of taking action was underpinned by two key beliefs. It comprised a belief that action, any action, was better than no action and that if the action did not work, then that was an acceptable outcome:

“You know I sit down and just have a bit of a think about, if I do it this way it might work, if it doesn’t I haven’t done any damage.” (Participant 6).

The participants also expressed confidence in their ability to be successful and to find ways to achieve things:

“I guess that was always the philosophy I had at school, that, you know, I will always find ways to fit round my inability to spell” (Participant 3).

When taking action, the participants described a focus on making improvements to their work. These improvements had a temporal aspect and the participants recognized improvement “over time”.

Humour

Humour was used in all the interviews and appeared to be linked to the way in which the Participants accepted their dyslexia. They laughed when describing their challenges, laughed at their mistakes and at the consequences of their mistakes. They also laughed when describing the efforts they made to overcome the impacts of dyslexia: “I did notice at school that I did copy a lot [laughs]” (Participant 2).

Positive Outlook

Collectively, the internal resources combined as a positive approach to living and managing the challenges of dyslexia. This positive approach was highlighted by the structure of the narrative of Participant 6. Although his narrative described greater challenges than experienced by the other participants – his sense of isolation and decades of battling away – he balanced the challenges with descriptions of what he was good at or what was going well for him. For example, when he described the fact that he could not read, he immediately balanced that with comments about being able to know the weight of a lamb simply by looking at it. When describing his time at school, he balanced his belief that he was “useless” by recognizing that he was good at sport. At other times in the narrative, he provided the balance within the same sentence: “Can’t read it but I look at the pictures”.

Overall, he was content with his achievements.

“[Dyslexia’s] just a fact of life now. That’s what I’ve got, can’t change it. No. So, yeah, if I can help other people with it, quite keen to do that. Just talk to them, yeah, get they’re not the only ones, yeah that’s what I look at. Yeah, but through all the hard work to get where we are now. I can just sit back and watch my sons do better, I hope [laughs], yeah.”

4.8 Dealing with Setbacks

From the participants' descriptions of their experiences with dyslexia, we know that setbacks occurred, and that they continued to experience feelings of frustration throughout adulthood. Their approaches to dealing with setbacks exhibited a process of re-framing to achieve a more positive view of the issue or event.

One strategy for coping with mistakes comprised acceptance, re-framing mistakes, and minimizing them. Mistakes happened, some costly - Participant 1 talked of a \$15,000 mistake involving lack of screening for antibiotics that ended up contaminating milk production. The reaction to these mistakes was illuminating. A key element was the ability to accept a mistake and also not to ruminate upon it. Referring to the contamination of the milk, she said:

"I'm pretty level headed, pretty calm, um, if things go wrong, well shit happens, let's get on with it and just deal with it" (Participant 1).

A similar approach was seen in relation to setbacks to their achievement of goals, where the participants accepted the setback and re-framed it in terms of someone else losing:

"I mean I applied for occupational therapy and I didn't get accepted, and I always remember thinking, well you know, why not, that's their loss (laughs)" (Participant 3).

Another strategy was to minimize the obstacle, to make it less significant:

"Yeah, I've just gotta learn how to spell the things that we do all the time, write down every day. Really, that's it, it's not too bad" (Participant 2).

Participants also actively reminded themselves of their own prior successes as a source of motivation to overcome a challenge or setback:

“Even though (deep breath) even though people thought I won’t finish and said that I will never finish it, um, and I think that’s how um I dealt with people that’s said no to me previously, um, and I think a lot of the time I remind myself of my previous achievements” (Participant 5).

They also compared themselves to role models. Parents were mentioned as role models as were famous people, or colleagues. The achievements of role models in overcoming challenges were used as a source of motivation to succeed:

“I look at other people and how they’ve got through and you find out these high flyers have been dyslexic and yep, yeah, gives you motivation” (Participant 6).

Chapter 5: Discussion

5.1 Main Findings

This study used interpretative phenomenological analysis to understand the lived experiences of adults with dyslexia as a means of identifying factors that facilitated their success in the workplace. The discussion outlines the key findings and explores them in relation to existing research as well as identifying areas for future research. It also discusses implications for practice in school and workplace settings and for health professionals.

The findings from the study are represented within a model that describes key themes as well as facilitators. Success was described as achieving a lifelong goal, or sense of purpose. The participants' experiences were described within three key themes of identity, time and connectedness. Identity encompassed how they developed and maintained identities as successful people in the workplace. Maintenance of the identity included the management of disclosure of stigma. The themes of connectedness and time were inter-related. The participants described their efforts to manage time and how this affected their connectedness to, and within, the world. Internal resources and external support are described as key facilitators for managing the effects of dyslexia.

The findings of this study fill gaps in knowledge about the experiences of adults with dyslexia. In particular, they offer a focus for further research to understand the relationships between time and connectedness to subjective well-being and also the importance of being able to control identity and time.

5.2 Identity

A simple definition of identity comes from the response to the question “who are you” (Vignoles, 2011). It can also come from the idea of acting as who you are (Baumeister, 1986). Therefore, identity can mean both how one perceives one’s self and how others perceive you (Stryker & Burke, 2000). Identity also exists in relation to one’s connection to and identification with a distinct group. For example, disability identity describes the identity created through a connection to other members of the disability community (Dunn & Burcaw, 2013). An individual’s beliefs and experiences of dyslexia have significant impacts on both their identity and belief in their capability (Bell, 2010; Pollak, 2005). People with dyslexia in Western societies live in environments in which their intelligence, a part of their identity, is measured by the ability, or inability, to read and write (Denhart, 2008). The “being” of dyslexia is itself created by the literate world in which these individuals live. Dyslexia shaped the childhood identities of the participants in this study, e.g. “you were the dumbass in the class” (Participant 1). Their experiences as adults were about their efforts to be identified by something other than their dyslexia.

Occupational identity has been described as a core part of an adult’s self-identity that signifies a point of transition from adolescence into adulthood (Skorikov & Vondracek, 2011). In fact some, viewing occupation in the broadest sense to include any meaningful productive activity, have argued that it is the *principal* means by which people develop self-identity (Christiansen, 1999). A strong sense of occupational identity is also believed to provide a sense of purpose for an individual (Christiansen, 1999; Skorikov & Vondracek, 2011). For adults with disability, identity has been found to create coherence for their lives over time, providing adults the means to view their lives as meaningful (Christiansen, 1999).

The participants in this study described identity as something personal and constructed in a way that was consistent with their life goals. The older

participants described identity as something they were, whereas some of the younger participants described it as something that they were becoming. For all participants, their identity was an embodiment of the successful person they believed themselves to be. Although the concept of identity was the key theme for the participants in my study, there has been little research into the role of identity in adults with dyslexia. I found three studies relating to identity and dyslexia in adults and one about identity amongst academically successful university students with learning disabilities.

A study of English and Finnish teachers ($n=8$) explored what it was like to be a teacher with dyslexia (Burns & Bell, 2010). Using narrative analysis, the authors found that their participants constructed three main identities that continually fluctuated. They categorised these roles according to their characteristics: a caring and sensitive teacher; a teacher who capitalised on their personal strengths (for example in choice of subject); and the teacher who was proactive and persevering. The participants deliberately chose to teach in fields of study that allowed them to use their skills, and avoided those in which they would be less skilful. They also demonstrated perseverance in the face of challenges, and were proactive in anticipating problems and finding ways to overcome them, for example by seeking assistance from a colleague to peer review their written work. The choices made about careers to follow mirrored the experiences from my participants. They chose to work in areas that were coherent with their strengths, and the ability to understand strengths and weaknesses was key to identity development. The participants also made frequent reference to persevering and being determined in relation to achieving their goals.

A discursive study of nursing students in Ireland ($n=12$) by found that the participants described three classifications of identity on a continuum according to the way in which the student nurses responded to their dyslexia in the work and study setting, described as: 1) Embracer; 2) Passive Engager; and 3) Resistor (Evans, 2014). The Embracers were proactive in seeking and engaging with support. The Resistors did not identify themselves as dyslexic, while the Passive Engagers chose not disclose their

dyslexia for fear of discrimination. Disclosure of dyslexia was found to be a complex event, influenced by the perceived support and understanding from others. Where dyslexia was perceived to be synonymous with being “stupid”, the students were unlikely to disclose it. This continuum has categorised participants according to their approach to the act of disclosure (Ragins, 2008). The participants in my study also displayed a range of approaches to disclosing their dyslexia. However, unlike Evans (2014) these decisions did not reflect their identity per se, but were strategies they used to create and maintain their identities.

Ragins (2008), drawing on self-verification theory, proposed three identity states for individuals with concealable stigma. They could experience Identity Denial, in which they sought to conceal the stigma at all times (similar to Evans’ Resistor group). This group would be expected to experience greater stressors. A second state was for Identity Disconnects, when an individual would experience incongruity from presenting different identities across their lived situations (for example work and social). The state of identity disconnects represented incongruity in identity, which would lead to some psychological stress. The third state was Identity Integration, when the individual undertook full disclosure in work and non-work domains. In this state the individuals would have a consistent identity across work and non-work domains, creating positive psychological outcomes.

Disclosure

Disclosure is the act of providing relevant information about oneself (Chaudoir & Fisher, 2010). It is a complex process for people with a concealable and potentially stigmatizing condition (Chaudoir & Fisher, 2010; Nalavany, Carawan, & Sauber, 2015). Stigma is described as a condition that can be seen as a flaw or attribute in an individual and sometimes leads to discrimination. Dyslexia fits the criteria for being considered a potential stigma for an individual (Leveroy, 2013; Nalavany et al., 2015; Nalavany, Carawan, & Rennick, 2011).

The existence of a concealable stigma created three challenges for someone considering disclosure. First, having to make a decision about whether or not to disclose, which would be a continuous cycle as the individual met other people or was in different work situations. For instance, Participant 1 described a series of work-related situations in which she had to make decisions about disclosure. Second, the nature of the stigma as invisible complicated the decision about disclosure, because it would force the individual to acknowledge the stigma, or to choose to “pass” as unimpaired (Brune & Wilson, 2013). Finally, the individual has to consider the uncertainty of the effect of the disclosure on others. As an example of this from my study, Participant 8 acknowledged one instance when he was embarrassed about his dyslexia, when he disclosed his dyslexia to his girlfriend through his inability to read to her younger brother. Not only did he have no control over the disclosure, he had not disclosed it because he was uncertain about the impact. For similar reasons, Participant 1 had decided not to disclose her dyslexia to the owners of the business she worked for because of the potential effect on their confidence in her.

Ragins (2008) proposed that a decision to make disclosure depended on the combination of three antecedent factors: self-verification processes; anticipated consequences; and, the presence, or absence of environmental support. Self-verification assumes that an individual has a desire for others to see them as they see themselves and that this will create a stability of identity, which in turn leads to psychological coherence. The closer the stigma is aligned to an individual’s identity, the greater the likelihood of disclosure. Throughout the interviews, my participants described their identities in relation to being successful at work. Therefore, disclosure was not related to identity, and was not part of a self-verification process.

The second criterion for disclosure, assessment of the consequences, is described as a form of cost-benefit analysis. Using role theory, Ragins proposed that disclosure could increase role congruency, or mitigate risks, thereby reducing stress. This positive effect would be compared to the potential for negative consequences, which for the dyslexic adult in a work

setting can lead to bullying and discrimination (Tanner, 2009). During the interviews, humour was raised as a strategy used to manage the effect of dyslexia in a work setting. Both Participants 3 and 4 had teaching roles and both referred to their difficulties spelling by making it a source of humour for their students. In that way, they could be seen to be mitigating the risk from uncontrolled disclosure. Indeed, Participant 3 did experience uncontrolled disclosure when she sent a spelling list home with mistakes in it, and was upset by the feedback she received as a consequence.

The third antecedent factor is the level of perceived environmental support from individuals or institutions. The theme of support was central to the narratives of the participants in this thesis. Ragins (2008) suggested that there were three main sources of environmental support. The first group comprised others who had similar stigma. Participant 1, for instance, recounted selecting the tutor to whom she disclosed her dyslexia based on the fact that he also had a disability. The second group included those in existing supportive relationships. Ragins identified that the existence of trust was a key factor in whether these relationships would provide an environment for disclosure. Support from partners and close relatives was important for all participants in this study, and the absence of trust was a key factor in Participant 6's decision not to disclose his inability to read to his brother. Finally, Ragins proposed that institutional support was a third source for support for disclosure. An example of this is Participant 8, who disclosed his dyslexia at school and in his dairy work. When Participant 8 was invited to enrol into industry training by his manager, he was confident enough that his manager would support him, so he felt able to disclose his dyslexia and to describe the level of support he would require.

An essential element of these factors was the ability of the individual to control the disclosure. A lack of control was directly linked to adverse emotional reactions for the participants. The importance of control can be seen from the description of two situations by Participant 1. In the first, she experienced a loss of control over disclosure of her dyslexia in a public setting (a post office) when she was unable to complete a form. She

displayed characteristics (inability to spell) that were in contrast to her external identity (a successful farmer). The response from the post office worker was disbelief about the disclosure. In the second scenario, Participant 1 took control of the disclosure process. She was frustrated with her lack of progress studying and chose to seek assistance from a tutor. She deliberately selected a tutor she identified as disabled. Her description of the second scenario provides support for Ragins (2008) model for disclosure, in that she identified a tutor with disability (which Ragins describes as finding someone who is similar) and she actively sought benefits from the disclosure.

The concept of control over one's identity was also an important factor for adult actors with dyslexia (Leveroy, 2013). The lived experience of actors with dyslexia identified that school experiences of dyslexia had been stigmatizing. As adults they created identities as actors partly in order to conquer dyslexia. They found that being an actor on stage was less chaotic than the rest of their lives because it allowed them a sense of control.

Sense of Purpose

The participants in this study described success in terms of their sense of purpose, which was then important to their identity and in framing success. While not about work experiences, Nalavany, Carawan, & Rennick (2011a) identified sense of purpose as the key factor in descriptions of successful living amongst adults with dyslexia ($n=15$). In their study the participants used photography and collage to express their experiences of living with dyslexia.

Another study that highlighted the relevance of a sense of purpose was by Anctil, Ishikawa, & Scott (2008). Their study of 104 university students with learning disabilities found that self-realization of an identity as academically successful occurred in students displaying characteristics of persistence, competence and active career decision-making. Key factors contributing to their academic identity included strong intrinsic motivation to achieve their goals and a good understanding of their strengths and weaknesses.

Waterman (1984, 2011) suggested that self-realization (also termed self-actualisation) was the ultimate goal of identity creation (Waterman, 1984, 2011). He described the process of identity creation as one of self-discovery. Waterman argued that the process of identity creation involved answering two separate questions: Is there a “better” identity for an individual; and, if so, how is it found? He proposed that the aim was to find one’s *daimon* (one’s potential) and, in doing so, achieving self-realization. There were three goals in the process of identify formation:

- a) Finding one’s potential;
- b) Choosing one’s purpose;
- c) Identifying the opportunities for combining potential and purpose.

Finding one’s potential was described as what “feels right” rather than finding something one could be successful in. Therefore, being good at what felt right could require effort. One’s purpose was what one aimed to accomplish. Whereas music might feel right, the purpose might be to perform in a particular genre. Finding the opportunities to combine potential and purpose would require a process of exploration.

5.3 Connectedness

The narratives of the participants showed the importance of the concept of connection to, and within, the world. Throughout their lives they experienced disconnection, as a consequence of dyslexia. They were disconnected from the events around them when literacy was required to understand what was happening. They were disconnected from activities or equipment that required them to read operating instructions. Some also became disconnected when the impact of their dyslexia meant they were separated from their peers, for example when Participant 5 became a part-time student in order to complete her programme of study, or having to spend lunchtimes studying instead of playing with friends (Participant 8). There was also a sense of dislocation from organisations because of the challenges with writing reports, which were the medium for transferring

information. The sense of disconnection was starkly stated by Participant 6 as isolation, “I thought I was the only one”.

The relationship between dyslexia and connectedness to others does not appear to have been studied previously. This is surprising given the importance of connectedness to others as a source of well-being and that the investment in public education is based, in part, on the acceptance that proficiency in literacy is liberating and enables participation in society (Baumeister & Leary, 1995; Bennett, 1983; Harman & Edelsky, 1989).

Social connectedness is a sense of belonging and closeness within the social world and is linked to enhancing self-esteem and reducing the likelihood of anxiety and depression (Baumeister & Leary, 1995; Lee & Robbins, 1998). The need for relatedness to others has been identified as a basic social need and affects an individual’s intrinsic motivation towards goal achievement (Deci & Ryan, 2008; Deci & Ryan, 2000). The need for relatedness with others, or a sense of belonging, also explains the desire to join others in a group, and to create a group identity (Haslam & Ellemers, 2011; Spears, 2011).

The challenges with connectedness affected how the participants created identity for themselves in relation to a group. Their narratives highlighted the lack of connection with group identities. For example, Participant 1 excluded herself from an identity as feminine, because her writing was ‘boring’ and ‘not girly’. Participants 3 and 5 were separated from their peer groups because of their decisions to work and study part-time. Although Participant 6 attended meetings of fellow farmers, he remained on the outside of the group, “I just try to hide if I can”.

However, the way in which the participants made use of social support meant that they were closely connected to at least one person (normally a spouse, life-partner or parent). Participant 6 described meeting his wife as the best thing in his life:

“Meeting [wife] that was the best thing in my life, so, yeah, she’s helped me out a hell of a lot, problems and that.”

Participants 1 and 3 described well-developed connections with their partners and involved them in their work so often that they appeared to be almost co-working on things.

Technology was an important aide to connecting with others and to new knowledge. Participant 1 actively sought new ways of using technology in her business so that she, and others, could be connected to knowledge about tasks. She also used technology to maintain connectivity with friends.

Participant 2 used technology as an aide to his study and to connect with knowledge from other farmers.

Although the use of technology and assistive technology has been researched for school and tertiary students, there has been little research of dyslexic adults’ use of technology in the workplace. Guidance on the use of technology is often limited to merely listing the types of technology available (for example, Reid, Came, & Price, 2008). The participants in my study highlighted some of the issues that would be worth exploring in other research:

- a. There was a difference between the adolescent’s and the adult’s relationship to technology (Participant 2). As an adolescent, Participant 2 was embarrassed by the technology because it drew attention to him, and his dyslexia. As an adult he recognised he needed to “man up” and use the technology.
- b. Technology can provide control. Participant 3 identified that using technology gave her the opportunity to control her spelling in the classroom and, thereby, establish a connection to her students through the written word.
- c. Technology does not automatically improve connectivity with the world. Participant 1 tried using Google in her studies, but still found her spelling to be a barrier because the search engine did

not recognise her spelling, or she was unable to read the information on the Internet.

- d. Technology supports the use of visual information. Participant 1 was adept at using her phone to take pictures of broken equipment so that she had a record of tasks that needed to be done. This allowed her to overcome the barrier from her spelling, which was so bad she was unable to understand her own notes.

5.4 Time

The relationship between dyslexia and time, which was a dominant issues in the lives of participants involved in this study, has also received little attention in previous research. Time is considered an important concept for understanding experiences of phenomena in general. Indeed, according to Heidegger (1927/2016) time is the horizon for our understanding of “Being” (*dasein*). Viewed through a temporal lens, dyslexia is seen as a developmental impairment. The discrepancy-diagnosis approach refers to unexpected difference between achievement and age. Dyslexia is also defined in relation to an impairment that affects the fluency of reading, where fluency is a proxy measure of function over time.

The participants in my study described a complex relationship with time, which I referred to as “the conundrum of time”. The impact of dyslexia meant that it took them longer to complete tasks involving reading and writing – which Moelder (2015) described as “objective time”. In order to improve their chances of completing tasks successfully the participants needed to allow more time; however, this had the effect overall of giving them less time for all their activities, which meant that they could never achieve everything they wanted in the time available to them. Errors arising from their dyslexia also robbed them of time because they had to repeat tasks. Some referred to the notion of trying to slow down time and others of slowing the pace at which colleagues and partners were working, in particular those assisting them to complete tasks – a concept that Moelder (2015) refers to as “subjective time”. Time was also referred to in a developmental context.

Participant 1 talked of going “back to school”, when as an adult she completed an English course. So, time was something outside their control and in many ways dyslexia was a thief of time.

The ability to control time has been found to be an aspect of self-control (McGrath & Tschan, 2004). Therefore, one would assume that if dyslexia inhibits one’s ability to control time, then it would have an impact on the ability to exercise self-control, which has been identified as a key determinant for success in adults with learning disabilities (Gerber & Ginsberg, 1990). This is a topic worthy of further study in future research.

The participants found that the impact of dyslexia on time as a resource meant that their ability to complete tasks was affected. The perception of a lack of time implies that the individual has monitored their progress and compared it to a norm. This process has been termed “psychological time” (Zakay, 2015) and is also a key element of exercising control. An imbalance between one’s capability to respond to a situation and the demands of that situation leads to stress (McGrath & Tschan, 2004). So it would seem likely that individuals with dyslexia would experience greater stress because of the lack of time available to complete tasks.

Time also featured within some of the strategies used by the participants. There was a strong focus on past successes as a source of internal motivation and to prior achievements of role models as a source of external motivation. A focus on the future occurred in relation to their action orientation and goal setting and there was a positive view of the future. They also looked at their achievements over a lifetime, taking a long-term view, tending to minimize setbacks and emphasize successes.

Zimbardo & Boyd (1999) reviewed studies into the concept of a model of Time Perspectives that could explain differences in subjective well-being. Their model, a construction of psychological time, recognised different traits in an individual’s reference to the past, present and future. In summary, the model proposed both positive and negative approaches to the past, present

and future. Using the model's terminology, the focus on goals is the future or future positive time perspectives. They have been correlated to more effective goal setting and goal achievement (Zaleski & Przepiorka, 2015). The reference to prior successes and the longer-term view that minimized setbacks would reflect a past positive time perspective. Although the model may appear to have some relevance in understanding the approaches of the participants in my study, it has not been used to study people with dyslexia or learning disabilities.

5.5 Support

The thread of support ran through all the participants' interviews. Social support has been considered an important part of the coping mechanism (Thoits, 1995; Williams, Barclay, & Schmied, 2004). Despite the importance of support in relation to coping, and that it was recognised as a key factor in the model of success for adults with learning disabilities (Gerber & Ginsberg, 1990), and the recognition of the impact of dyslexia on self-esteem (Tanner, 2009), the concept has received little attention in relation to dyslexia. I could find only one study relating to perceived family support for older adults with dyslexia (Carawan, Nalavany, & Jenkins, 2016), in which the authors found that the emotional effects of dyslexia adversely affected self-esteem and that perceived family support acted as a buffer. However, their study was quantitative, so did not add to understandings of adults' lived experience of support. Additionally, although support has been identified as important in many studies relating to coping, there do not appear to be many qualitative studies (Williams et al., 2004), nor explanations of the process that individuals follow to obtain support. Although I have proposed a model for the cycle of support, based on the narratives, this area is worth further investigation.

5.6 Implications for Practice

A majority of dyslexia research has been within the educational or medical fields, in which the emphasis has been on accurate diagnosis and

intervention (Macdonald, 2009b). Indeed, in their thought-provoking discussion of dyslexia, Elliott & Grigorenko (2014) advocate for the end to the use of the term dyslexia because it is a construct that lacks “scientific precision and rigor” (p 182). They conclude that the term dyslexia is difficult to define operationally and therefore difficult to create appropriate interventions to better assist those who struggle to read.

Riddick (2001) and Macdonald (2009) have suggested that a better approach would be to look at dyslexia through the lens of the social model of disability (Oliver, 2013). Riddick (2001) commented that dyslexia became a difficulty only when mass literacy occurred. The English language exacerbates the problems for people with dyslexia because it is not a transparent or, at times, logically written language. Using the social model of dyslexia, Macdonald (2009) analysed interviews with 13 adults with dyslexia. He found that structural discrimination existed within the education system, with teachers linking dyslexia to lack of intelligence or to laziness, thereby averting the gaze from their practices of exclusion. Similarly, in the world of employment, the interviewees experienced structural barriers that facilitated discrimination, for example the use of disciplinary action to punish slow or inaccurate working by an individual, thereby masking the discrimination. Interestingly, Macdonald also found that the cost of technology was also a barrier to participation. Oliver (2013) concluded that the social model of disability has made little impact in both school education and in employment, where solutions are based on the individual model.

The inter-related themes of time and connectedness highlight the importance of understanding the impact of dyslexia as more than an individual impairment. Literacy becomes an issue only when it is the dominant form of communication. Time becomes an issue when it is used as a measure of ability. The focus on the individual’s impairment actually serves to isolate him or her further from the world, through placement in an individual classroom for an examination, or separating his or her desk from others. The focus on the diagnosis of dyslexia or the intervention means that we ignore the lived experiences of people with dyslexia (Macdonald, 2009).

This research has allowed the voices of adults with dyslexia to be heard. Taking a strengths-based approach their narratives have identified three key themes relating to how they managed their dyslexia in order to be successful. It is important to support people with impairments to participate fully in society. The current corpus of advice on facilitating success for adults in the workplace focuses on enabling literacy support through various accommodations (for example, Leather & Kirwan, 2012; McLoughlin & Leather, 2013; Reid, Came & Price, 2008). The findings from this study go further and draw attention to the ways in which the experiences of dyslexia can affect one's identity and point to useful strategies to be shared with adults and also adolescents with dyslexia, as they prepare to become adults in the workplace. The experiences of dyslexia affect identity when one is categorised according to a label, thereby losing the freedom to choose how to be present in the world. Identity is also affected through uncontrolled disclosure of dyslexia and when inappropriate strategies are used to overcome the limitations of dyslexia, for example becoming the cheat in a classroom setting.

The participants in my study provided many examples of how their school experiences impacted their identity, for example through placement in classes with children with intellectual disabilities or by teachers declaring that their futures would be limited by their dyslexia. Schools still stream children based on perceived academic ability and even classes designed to be supportive for children with dyslexia are, in my experience, colloquially referred to as "cabbage classes" by students. Schools in particular need to listen to the voices in this study and reflect on how they support children with dyslexia to build positive images of themselves. Tanner (2009) found that the education experiences in Australia for children with dyslexia pointed to system failure, through lack of teacher knowledge, and also public failure from assignment to special classes or from failure in examinations that favoured literacy skills. Using the findings from this study, schools could improve the experiences of students with dyslexia in three ways:

- 1) Through a focus on measuring success in terms of achieving a sense of purpose rather than in examination performance;
- 2) Supporting students so that they can control the circumstances in which they disclose their dyslexia;
- 3) Helping students to develop the internal resources to manage the challenges of dyslexia.

Leather & Kirwan (2012) described the use of coaching for adults with dyslexia as an intervention to help them improve self-understanding and performance. The issues of identity development and maintenance described by the participants in this study would seem to be relevant for the coaching intervention, providing a framework with which to work with a client to develop a useful image of themselves and linking that to their life purpose and goals. In particular, coaches and mentors should consider helping adults to identify a coherent sense of purpose and to develop the internal resources necessary to manage the challenges of dyslexia.

The themes of connectedness and time have received little attention in research of dyslexia and so the implications for practice are tentative only. The two themes appear to be closely related, and possibly inter-related. Currently schools and workplaces are encouraged to allow people with dyslexia extra time for tasks and tests. In schools the norm for extra time in an examination is ten minutes per hour. People with dyslexia are also encouraged to use technology to help with reading and writing. There is also advice, and practice, of providing separate workspaces so that people with dyslexia are distracted less (Leather & Kirwan, 2012) and in schools children with dyslexia have separate rooms in which to take their examinations. These accommodations do not necessarily support adults with dyslexia; instead they may reinforce the lack of connectedness from others. They also do not acknowledge the sense of isolation from others because of the lack of reading ability. If workplaces are to truly be inclusive, then we should consider how we include colleagues with dyslexia, recognizing their challenges to master time and also the implications of being disconnected from others. Workplaces should consider:

- 1) Investigating how to replace reading and writing with more inclusive forms of organizational communication. The opportunities for use of visual and audio forms of communication, for example YouTube, should become the norm rather than the exception;
- 2) Creating supportive working environments in which disclosure of hidden stigma is a positive experience. This can be facilitated through better awareness of dyslexia and also acknowledgement of the importance of diversity in the workplace.

There are also implications for practice. The experiences of involuntary disclosure by Participant 1 in the post office and Participant 6 in a hospital ward highlight the importance of understanding the assumptions we hold about others. In both those scenarios, the assumption held as that the participant would be able to read. How many other examples of our practice are based on inaccurate assumptions? In relation to adults with dyslexia, we need to consider whether information is being presented in a way that can be understood without the need to read.

Finally, I have to reflect on my own practice as a researcher. There is something ironic about presenting my findings about dyslexia in a lengthy written format that will effectively exclude my participants from understanding my interpretation of their stories. Thus, I have broken the hermeneutic cycle of communication and understanding that underpins phenomenological research. In order to be true to my epistemological basis, I must now develop a way to share my findings that does not require my participants to have to read.

5.7 Limitations

Dyslexia exists on a continuum and a general criticism of all dyslexia research has been that the participants are heterogenous (Elliott & Grigorenko, 2014). The participants in my study were a heterogenous sample, which makes it difficult to draw conclusions about individual subgroups within the population of people with dyslexia. In addition, the study did not have the resources to test and formally identify the participants' dyslexia, nor the severity of it. Instead, I had to rely on their declarations and also prior dyslexia screening. My sample also included distinct age groups and it is not clear whether the findings would be the same if each group was studied independently.

The study was also the work of a novice IPA researcher. The sample was larger than suggested for a novice researcher (Smith et al., 2009) which may have lead to difficulties managing the volume of analysis. In addition, there were times at which I felt that further interviews with the participants would have elicited richer descriptions of their experiences.

In general, researchers' preconceptions are likely to affect interviews and analyses in IPA (Brocki & Wearden, 2006). Although I attempted to make my bias clear through my journaling and to reflect on these during supervision sessions, it is likely that I remained unaware of some bias or preconception and these may have affected the direction of an interview or the data analysis. By its nature, IPA is inherently subjective (Brocki & Wearden, 2006). The influence of my subjectivity was mitigated through independent review of the transcripts by a supervisor.

5.8 Future Research

There has been little research of dyslexia amongst Māori, although their rates of reading ability are known to be lower than the general New Zealand population (Waldie et al., 2014). Although my study included one Māori participant, his voice has become lost amongst the Pākehā majority. I have, inadvertently, further disadvantaged Māori by extending the basket of knowledge about Pākehā and dyslexia (Cunningham, 2000). Therefore, a priority is for research into Māori and dyslexia. Key questions to investigate are:

- 1) What is the prevalence of dyslexia amongst Māori?
- 2) What are the barriers and facilitators for Māori learners to being recognised as having dyslexia and to accessing support?
- 3) How can Māori adults with dyslexia achieve success in the workplace?
- 4) What does success mean to Māori adults with dyslexia?
- 5) What are the experiences of Māori with dyslexia in managing within a milieu of written language when their history has been oral?

It is also important to recognise that the notion of dyslexia sits within a western worldview that literacy means print literacy (Hohepa & McNaughton, 2007). Dyslexia becomes evident in relation to print literacy. The western concept of literacy as occurring solely in print has dominated New Zealand since colonisation (Furness, Robertson, Hunter, Hodgetts, & Nikora, 2017). It has also contributed to the decline of the Māori language and ancestral knowledge (Hohepa & McNaughton, 2007; Rāwiri, 2016). However, the Māori concept of literacy is broader, encompassing an oral tradition, performance and also through symbols, in particular moko (tattoos), whakairo (carvings) and raranga (weaving) (Furness, Robertson, Hunter, Hodgetts, & Nikora, 2017; Hohepa & McNaughton, 2007). The focus on functional literacy as a means of enhancing economic success has been criticised as too narrow because it fails to recognise the importance of the

range of literacies that promote Māori worldviews (Hutchings, Yates, Isaacs, Whatman, & Bright, 2013; Rāwiri, 2016). Therefore, a study of the effects of dyslexia for Māori in the workplace risks restricting the understanding for Māori within a western worldview. Therefore, further research should use of kaupapa Māori approach, that recognises the importance of the research as a contribution to social change and also ensures it is driven by Māori (Cunningham, 2000; Health Research Council, 2010; Hutchings et al., 2013).

There has also been little research into the lived experience of adults with dyslexia. This study has focussed on themes of identity, connectedness and time, and all are worthy of further research, in order to better understand their relationships to each other and to individuals. The strategies used to protect identity were of interest and research here could bring together concepts of disability passing and disclosure. The themes of connectedness and time in relation to people with dyslexia appear to have had little attention, even though previous research has concluded that they are important components of subjective well-being. Key research questions are:

- 1) How do adults with dyslexia develop and maintain identities as successful people, particularly if their childhood experiences have created negative sense of self?
- 2) How are domains of connectedness and time related to subjective well-being for people with dyslexia?

The importance of control has been recognised as a key factor for success of adults with learning disabilities (Gerber, 2002; Gerber, Ginsberg, & Reiff, 1992; Nalavany et al., 2011a). Those authors suggested that the adults had to control internal decision-making and also the external environment in order to achieve success. This study has found that control was important in relation to the management of disclosure and the impact on identity and also on the management of time, which were not identified by previous authors. Therefore, future research could investigate the extent to which the ability to control identity and time are related to success and resilience.

The value of support for adults with dyslexia has been identified in previous research. However, the details of how this support is obtained and the conditions for it to operate successfully have not been investigated in relation to dyslexia. This study has proposed that effective support for the participants occurs as a cycle and that trust is a key facilitator for the success of the relationship between supporter and supportee. Further research should investigate whether other barriers and facilitators for support exist.

Finally, the importance of support from family and loved ones was important for every participant. Yet the voices of the supporters have remained silent. They deserve to be heard, and we, the parents, spouses and mentors for those with dyslexia, have much to learn from them (Hellendoorn & Ruijsenaars, 2000). Future research should investigate the experiences of those supporting adults with dyslexia in order to better understand how to ensure support is effective.

5.9 Conclusions

This study set out to use a strengths-based lens to understand how adults with dyslexia defined success in work and to identify factors that enabled them to be successful. It used a phenomenological approach to understand their lived experiences.

Success was described as fulfilling a sense of purpose. In doing so, this study contrasts with previous research into success for adults with learning disabilities and dyslexia that assessed success in relation to external measures (for example salary, status and role). This study also differed from earlier research in that the participants were not selected as examples of very high achievers.

Their stories described life-long experiences of dyslexia within three themes of identity, connectedness and time. Within each theme they described the challenges they encountered because of dyslexia and the ways in which they overcame them. Overall, their stories were of resilience and inventiveness.

The narratives exposed the contrasts between supportive and unsupportive school environments. While some had experienced humiliation at school, others had felt supported, even nurtured. This was not explained by generational difference: poor attitudes exist today as much as forty years ago. Indeed, the negative experiences at school were no different from those identified by the earliest commentators on dyslexia in the late 19th century and early 20th century.

The participants mostly had to find their own ways to manage the effects of dyslexia in their workplaces. None described being coached in what to expect in a workplace nor how to be successful. Instead they each found ways of managing their challenges. Every one of them was determined and persevered in spite of the difficulties they faced. Gerber et al. (1992) were surprised to find that even their very highly successful participants endured

pain and agony to overcome learning disabilities. Each participant in my study expressed similar feelings: they felt that dyslexia was a stigma.

Their challenges were exacerbated by the hidden nature of dyslexia. Their greatest fear was to be exposed as something less than the norm. Hence, they developed effective means to pass as able, even though this added to the effort required to work successfully. A sense of identity was important to them and was maintained through various strategies, including a focus on their strengths, delegating work to others, and being in control of disclosing their dyslexia.

The themes of connectedness and time were used to describe the effects of dyslexia. In a world based on the written word, they experienced disconnection from tasks, peers, organisations and world events. Thus, they were floating in isolation. Although technology was increasingly useful as an aide to connect to text, it was not a panacea. The most effective and innovative use of technology occurred on a farm, where instructions for operating equipment was accessed through a pen that spoke to the user.

A “conundrum of time” was described, in which the participants needed more time to complete tasks and then actually lost time by doing so. Thus, they were forever having to catch up. They spoke of trying to slow down time, as though it was something they could catch and hold. Some experienced dyslexia when it slowed their progress, for example through study, and this had a consequence of making them disconnected from peers when they could not maintain pace with them.

Key facilitators for success were the way they deployed and used their internal resources and also the support they received. In line with other research, internal resources of perseverance and determination were critical to being successful and to overcoming obstacles. This was linked to goal setting which set them the targets to measure their achievements as they worked to be who they wanted to be. However, they did not do all this alone. They all used support from others, as children they were supported by

parents and as adults by a partner, or also managers and colleagues at work. Effective support occurred when the participants recognised the need for support, worked out how to obtain it, and found someone they could trust to provide it. The cycle of support was coming full circle for the older participants as they began to use their experience to help others.

Glossary

Grapheme

The smallest meaning unit in writing, for example a letter or combination of letters.

Idiographic

Study of the particular, in this research the individual.

International Classification of Functioning, Disability and Health

The World Health Organisation framework for describing and organising information about an individual's functioning and disability.

Orthography

The degree of correspondence between a symbol and the language sound they represent.

Orthographic Transparency

The extent to which a written symbol (grapheme) matches the sound it makes (phoneme).

Phonological Processing

The breaking down of words into their smaller units of sound.

Phoneme

The smallest discernible segment of speech.

Prosodic

Features of speech such as rhythm, pitch, volume.

Sharemilker

A self-employed person who works on a dairy farm in return for a share of the profits.

Tertiary Education Organisation

An organisation providing education post school.

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Appendix A: CASP Quality Appraisal

Table 6: Critical appraisal of included studies using the Critical Appraisal Skills Programme assessment tool for qualitative research

Criteria	Bell (2010)	Burns et al, (2013)	Fink (2002)	Gerber et al, (1992)	Goldberg et al, (2003)	Hellendoorn and Ruijsenaars (2000)	Illingworth (2005)	Logan & Martin (2012)
1	Was there a clear statement of the aims of the research?	✓	✓	?	✓	✓	✓	?
2	Is a qualitative methodology appropriate?	✓	✓	✓	✓	✓	✓	✓
3	Was the research design appropriate to address the aims of the research?	?	✓	X	?	?	?	X
4	Was the recruitment strategy appropriate to the aims of the research?	✓	✓	X	✓	✓	?	✓
5	Were the data collected in a way that addressed the research issue?	✓	✓	?	✓	?	✓	✓
6	Has the relationship between researcher and Participants been adequately considered?	✓	✓	X	✓	?	?	X
7	Have ethical issues been taken into account?	✓	✓	X	?	?	✓	X
8	Was the data analysis sufficiently rigorous?	✓	✓	X	✓	✓	?	
9	Is there a clear statement of findings?	✓	✓	✓	✓	✓	?	X
10	Were the findings valuable?*	X	✓	?	✓	?	X	?

* N.B. The final criterion has been changed from the original question "How valuable is the research?"

Key to Responses:

Yes	✓
Can't tell	?
No	X

Appendix B: CASP Quality Appraisal – Systematic Review

Table 7: CASP appraisal of systematic review

	Criteria	De Beer et al, 2014
1	Did the review address a clearly focused question?	✓
2	Did the authors look for the right type of papers?	✓
3	Do you think all the important, relevant studies were included?	✓
4	Did the review's authors do enough to assess the quality of the included studies?	✓
5	If the results of the review have been combined, was it reasonable to do so?	?
6	What are the overall results of the review?	See above Table 1
7	How precise are the results?	N/A
8	Can the results be applied to the population in my study?*	✓
9	Were all important outcomes considered?	x
10	Are the benefits worth the harms and costs?	N/A

Appendix C: Transcript for participants – background to research

SLIDE 1 (20s)

Kia ora

I am really curious.

Why can some people with dyslexia participate successfully in work, while others cannot?

Why do some find work fulfilling, rewarding and enjoyable, and others not?

Wouldn't it be great if we could identify those factors that help, package them up and share them?

SLIDE 2 (20s)

I am Henry de Salis. I work for the Primary ITO, and at a secondary school where I help teenagers with autism and those with dyslexia.

I am proud of my children, who all have dyslexia, and really enjoy helping one of my daughters on the farm, where she becomes the teacher and me the student.

I am also studying at the University of Otago and this research project is part of my Masters in Health Science.

SLIDE 3 (30s)

Most research into dyslexia has focussed on children and on the challenges people with dyslexia face. We know about the frustration and the exclusion and discrimination that, for some, lead to mental health issues.

But there is another group, about whom we know little. These are the people with dyslexia who are able to achieve what they want to achieve.

They can be and do what they want. My eldest daughter falls into this group. She loves her job as a primary school teacher and is doing really well.

Dyslexia is not holding her back.

What factors help this second group participate successfully in work? This is the focus of my research.

SLIDE 4 (20s)

I want to hear your stories about what makes you successful in your work. We will meet and chat, for possibly an hour and a half. I write up the discussion and analyse what everyone has said.

The small print:

- a. You can stop the discussion at any time;
- b. You can choose not to answer a question;
- c. You can also talk about anything you think is relevant in response to a question.
- d. I will record our discussion. The recordings will be destroyed after the research is complete.

SLIDE 5 (20s)

If you want to share your experience with me, and possibly help others with dyslexia, please get in touch.

You can ring or text me on my cellphone – 027 706 5297;

Or email me at henry.fanedesalis@primaryito.ac.nz

Thank you for listening to me. Kia ora.

Appendix D: Semi-structured interview questions

1. Tell me a little bit about you and your work.
2. How do you know if you are successful in your work?
3. What things have helped you to be successful in your work?
4. What are your strengths?
5. What does having dyslexia mean to you?