University of Southern Queensland

GIFTED ADULTS IN THE WORKPLACE: A SYSTEMATIC LITERATURE REVIEW

A Thesis submitted by

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ABSTRACT

It is widely acknowledged amongst educators that gifted children have different needs requiring special consideration at school. However, little attention has been given to how these might manifest throughout a lifetime and in different contexts, such as the workplace. A systematic literature review was used to identify, collect, and summarise the current literature on this topic to provide direction for future research efforts. The review was conducted in accordance with the PRISMA statement for methodological rigour. Studies were included if they were discrete and presented findings that were specifically about gifted adults' experiences in a work setting. The review did not consider studies that presented interpretations of others' experiences such as those presented by clinicians or those relating to careers or career decisions. Literature was collected from the following databases: EBSCOhost megafile ultimate, Google Scholar, ProQuest, SAGE Journals, Scopus, Taylor & Francis, and Web of Science. JBI's Critical Appraisal Tools were used to assess the quality and trustworthiness of the included studies. The PRISMA flow chart was used in conjunction with EndNote to document and manage the review. From the initial search, 754 records were screened and ultimately 19 studies were included in the review. The data in the included studies was subsequently analysed and coded in NVivo which identified twelve themes that could be categorised into three main groupings: the individual, the work, and others. For the individual category, the themes were skills and abilities, boredom, mental health and emotional wellbeing, self and identity, attitudes about work, past experiences and achievement. The themes relating to the work were the job and the workplace. For others, the themes were perception of the worker by others, interactions with others and social skills and abilities. The findings have implications for future research, gifted individuals, and their workplaces.

CERTIFICATION OF THESIS

I Catherine Chinnock declare that the masters Thesis entitled Gifted Adults in the Workplace: A Systematic Literature Review is not more than 40,000 words in length including quotes and exclusive of tables, figures, appendices, bibliography, references, and footnotes. The thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

Date: 3 February 2023

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A special thank you to my husband Simon, for being my biggest fan and to my beautiful boy, who inspired me.

‘Why are the gifted not out there solving the wicked problems in the world…’

‘Nobody wants us to.’

(Scott 2012, p. 74)

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION AND LITERATURE REVIEW

1.1. Focus of the study

Gifted children are thought to possess remarkable abilities that will enable them to make significant contributions to society in their lifetime (Persson 2014). The importance of nurturing these abilities is recognised by educators and much research has been conducted in relation to supporting these children so that they may achieve their potential (Rinn & Bishop 2015). It is widely acknowledged that gifted children have different needs requiring special consideration in the school environment (Vreys, Venderickx & Kieboom 2016). However, little attention has been given to how these might manifest throughout a lifetime and in different contexts, such as the workplace (Rinn & Bishop 2015; Nauta & Ronner 2016).

Work is an essential part of adult life, and individuals are most likely to be productive in adulthood (Rinn & Bishop 2015). It is through work, that potential is most likely to be realised. Yet it is unclear whether gifted children do in fact, go on to achieve their potential and what educational supports were effective in enabling them (Rinn & Bishop 2015). Research relating to gifted adults is rare (Rinn & Bishop 2015), but there is some evidence to suggest that just like gifted children in the classroom, gifted adults have different needs in the workplace that can impact on their ability to function (Nauta & Corten 2002).

Gifted adults who are functioning well, have the potential to be natural innovators and problem solvers (Corten, Nauta & Ronner 2006) but, like gifted children, they may experience a range of difficulties. Gifted individuals may experience a range of difficulties including frustration (Nauta & Corten 2002), boredom (Vreys, Venderickx & Kieboom 2016) and burnout (Elshof 2016). They may also be subjected to workplace

mobbing (Kotleras 2007), and experience conflict (Nauta & Corten 2002). They are highly sensitive perfectionists and working relationships with peers can be problematic where there is an intellectual disconnect (Vreys, Venderickx & Kieboom 2016). Some feel they are prevented from using the full extent of their abilities in the workplace (Persson 2014). Not being recognised or understood may result in underachievement and impairment (Streznewski 1999).

Ultimately, more research is needed if both gifted individuals and their employers are to benefit from realised potential. This thesis will focus on the experience of gifted adults in the workplace, an area in which there is a paucity of research (Persson 2009). The overarching question for this research project is therefore: *'What is the experience of gifted adults in the workplace?'*. The aim of the thesis is to conduct a systematic literature review to better understand the experience of gifted adults in the workplace. The purpose of the review will be to map out this under-researched area, offer new interpretations about the existing literature, and identify gaps in which to direct future research efforts.

1.2. Defining giftedness

At its core, giftedness is about high intelligence where gifted individuals are more intelligent than the general population (Sousa 2009). As simple as this sounds, it is still a concept that is difficult to define, with over 20 different conceptions and little consensus in the field as to what giftedness is (Nauta & Corten 2002; Sousa 2009; Sak 2021). It has been described as fuzzy, vague (Sak 2021), and elusive (Gruppetta 2009). Without a clear definition, giftedness is difficult to identify and measure. Yet it is readily understood that there is considerable variation in cognitive abilities within the human population, with some individuals able to complete mental tasks that others cannot (Deary 2014; Deary, Penke & Johnson 2010).

There has long been a fascination with human intelligence and genius. Individual differences in cognitive ability have been noted since the time of Socrates (Frasier & Carland, cited in Gruppetta 2009, p. 60), and explanations have long been postured. However, it was not until the advent of the first intelligence tests in the early twentieth century that there was a marked shift in the identification and measurement of intelligence (Howe 1997). So much so, that before the close of the century it was declared that 'the measurement of intelligence has been the greatest achievement of twentieth-century scientific psychology' (Herrnstein & Murray, cited in Howe 1997, p. 4).

The measurement of intelligence began in 1904, when British psychologist Charles Spearman identified that performance across a battery of cognitive tests was positively correlated (Deary 2013). That is to say that individuals who performed well on one cognitive test, tended to perform well across a range of cognitive ability tests (Deary 2014). This is known as 'g' or general intelligence (Borland 1997). Around the same time in 1905 Alfred Binet, along with his colleague Theodore Simon, devised a practical test to assess school readiness in students and identify their needs (Jacobsen 1999). The result was one of the earliest intelligence tests, the Stanford-Binet Intelligence Scale, which was quickly adopted as an absolute measure of Spearman's general intelligence (Borland 1997; Howe 1997).

Intelligence as a scientific construct has long been entwined with that of giftedness (Borland 1997) with most conceptions of the latter including some reference to intelligence, cognitive ability, or potential. Having been developed as a tool for educators, and then adopted as a definitive measure of intelligence (Borland 1997), the use of test scores expressed as an Intelligence Quotient (IQ) in conceptualising giftedness has become widespread and inextricable. Since the Stanford-Binet test, hundreds of

other IQ-type tests have been developed including the Wechsler Intelligence Scale for Children (WISC) (Deary, Spinath & Bates 2006).

A systematic literature review on gifted adults conducted by Rinn and Bishop (2015) demonstrates how prevalent the use of IQ test scores are in identifying giftedness. Of the 59 studies included in their review, 41 used an IQ score or other standardised test score as the indicator of giftedness. Another 25 used achievement as the indicator (academic prizes, status as a doctoral student, adult accomplishments, or class rank). Some studies used both, and seven used a variety of other indicators including recommendations for school officials, autobiographical statements, scores on a model of personal intelligence, participation in a gifted program, or graduation from a selective high school.

It could be said that the indicators of giftedness across these studies, roughly fall into two categories: standardised test scores (including IQ) or achievement. Both types of indicators are problematic and do not provide the whole picture of what giftedness is. It is important to distinguish between indicators of giftedness and conceptualisations of giftedness, which is much more complex and nuanced.

1.3. IQ-type tests

Intelligence-test scores are normally distributed along a bell-shaped continuum, where average is defined by a score between 85 and 115 (Howe 1997). Gifted individuals have been defined as those who score in the 98th percentile (or top 2%) of an intelligence test, resulting in an IQ score of 130 or above (Nauta & Ronner 2016). It is this score which has been adopted as the sole criterion for membership into Mensa, an exclusive international society whose purpose is to nurture human intelligence (Austalian Mensa 2022). Conversely at the other end of the scale, an IQ score of 70 or below represents the bottom 2% of scores (Silverman 1998). Furthermore, it could be said that individuals in the

bottom and top 2% of the population are both significantly different from the norm and that both need a similar level of support to cope with the difficulties that this difference presents (Silverman 1998).

The cognitive domains tested are usually the same and include memory, reasoning, verbal comprehension and vocabulary, processing speed, and spatial ability (Deary 2013). These are the cognitive abilities that underpin performance on cognitive tasks (Deary 2013). It is the test scores for these kinds of domains that Spearman found to be positively correlated and so IQ tests can strongly relate to general intelligence (Deary 2014). Not only are results correlated across domains, but they are also positively correlated for tests taken within domains (Deary 2014; Deary, Penke & Johnson 2010). The case for general intelligence is strong, having been replicated upwards of 400 times (Deary, Spinath & Bates 2006).

Moreover, intelligence has been found to remain fairly stable over time (Deary 2014). The stability of intelligence over time has given many scholars reason to conclude that giftedness is lifelong and not something that is outgrown, like a skin being 'sloughed' (Jacobsen 1999, p. 9). In 1932 almost every child attending school in Scotland, and who was born in 1921, sat an intelligence-type test (Deary et al. 2004). This happened again in 1947 for children born in 1936 (Deary et al. 2004). The fact that almost a whole population was tested at this time, makes this a unique and valuable data set, as it is perhaps the only known data of its kind in existence (Deary 2014). After the results of these tests were rediscovered in the 1990s, many of the individuals who originally sat the test were followed up (Deary 2014). In comparing their later-in-life test results against their earlier results as a baseline, it was found that 'around half of the individual differences in intelligence are stable across most of the human life course.' (Deary 2014, p. 239).

The criticisms levelled at intelligence tests are many. The suggestion that intelligence is innate and stable is uncomfortable for some (Persson 2014), and there are valid moral and ethical concerns around the ranking of individuals according to their IQ test scores (Howe 1997). With the high degree of value placed on intelligence in Western society (Judge, Colbert & Ilies 2004) ranking of individuals in the absence of intelligence tests is bound to occur through other less reliable methods. For example, the ranking of school children through skills and knowledge testing is common practice and an accepted norm. It is also subject to teacher bias (Gruppetta 2005).

Another concern is that that intelligence tests can be misused to reinforce existing prejudices and biases, and that they favour individuals of a particular socioeconomic status (Howe 1997). The suggestion is that the questions favour a particular type of thinking, which matches the native environment of some, but not others (Howe 1997). Similarly, performance may be influenced by the individual's own internal prejudices which may in turn have an impact on their motivation and willingness to be tested (Howe 1997). Performance anxiety, a fear-of-failure and low confidence are also purported to be factors at play (Howe 1997). Interestingly, these have all been identified as some of the challenges faced by gifted children in the classroom.

In fact, one of the 60th most influential psychologists in the 21st century flunked an IQ test in the second grade because he froze and was henceforth classified a dunce (Robson 2019). The psychologist was Robert J. Sternberg, and he later went on to achieve eminence within his chosen field, developing his own theory about intelligence, known as the Triarchic Theory of Successful Intelligence (Robson 2019). Fortunately, he was not confined by his test score, and he had a teacher who saw his potential and was able to nurture and encourage him (Robson 2019). However, for others the result of an IQ test can have potentially damaging lifelong

ramifications for the individual, no matter what their score (Streznewski 1999).

The criticisms made about IQ including those presented above, were particularly heightened after the publication of the book, The Bell Curve by Herrnstein and Murray in 1994 (Gottfredson 1997). The book was controversial at the time and sparked a reaction where the attacks had never before been so vexatious, extreme, and misinformed (Gottfredson 1997). This prompted an unusual and unprecedented response whereby 52 researchers in the field presented a united statement published in the Wall Street Journal, outlining that which was considered mainstream knowledge in the field of intelligence (Gottfredson 1997). In the statement, intelligence was defined as:

> A very general mental capability that among other things, involves the ability to reason, plan, solve problems, think abstractly, comprehend complex ideas, learn quickly and learn from experience. It is not merely book learning, a narrow academic skill, or test-taking smarts. Rather, it reflects a broader and deeper capability for comprehending our surroundings – 'catching on', 'making sense' of things or 'figuring out' what to do. (Gottfredson 1997, p. 13)

In addition, the statement methodically outlined conclusions made in the intelligence field over many decades of research and which have been described as mainstream (Gottfredson 1997). There are some 25 points, which includes that intelligence tests are accurate, the bell curve is representative, tests are not biased, a high IQ is an advantage but not a guarantee, intelligence is highly heritable, and environment can have an impact (but it is unclear by which factors) (Gottfredson 1997).

1.4. Multiple intelligences

In response to a perceived overreliance on IQ type-tests, another (perhaps more generally palatable) model of intelligence was developed by Gardner (Sousa 2009). It is known as the Theory of Multiple

Intelligences, and it theorises that an individual can be intelligent in one domain and not in others (Deary, Penke & Johnson 2010). Furthermore, that there are multiple kinds of intelligences including linguistic, visual-spatial, logical, mathematical, interpersonal/intrapersonal, bodily-kinaesthetic, and musical (Gardner, cited in Chen & Buckley 2009, p. 117).

However, some of these do not relate to cognitive ability (Deary, Penke & Johnson 2010) and so should not be considered a kind of intelligence. For example, bodily-kinaesthetic intelligence (Deary, Penke & Johnson 2010). Robson (2019, p. 27) also quotes Flynn, another luminary in the intelligence field as having said, 'Why not also talk about stuffing-beans-up-your-nose-intelligence?'. Moreover, any empirical tests conducted in relation to the Theory of Multiple Intelligences have instead produced results which support the opposing notion of general intelligence (Visser, Ashton & Vernon, cited in Deary, Penke & Johnson 2010, p. 204).

1.5. Terman

An important study which examined intelligence over time was Terman's Study of the Gifted (Rinn & Bishop 2015). This was an important longitudinal study of gifted individuals that took place from 1921 to 1999 (Rinn & Bishop 2015). Intelligence is predictive of many important life outcomes including educational attainment, professional level of work, status, income, and health (Deary 2013) and Terman, who followed eugenic principles (Kasper 2003), concluded from his study that gifted children were superior in almost every way (Rimm, Siegle & Davis 2018).

Critics of the Terman study point out that most of the individuals in his study had an advantageous socioeconomic status (Rinn & Bishop 2015). This has cast some doubt on whether participants were successful because of their IQ, all of whom had an IQ of 135 or above, or their socioeconomic status (Rinn & Bishop 2015). Perhaps too, their success

was influenced by Terman himself, who was known to advocate on their behalf and involve himself in their lives (Shurkin 1992). He certainly took a keen interest in them and enjoyed sharing in their milestones and successes (Shurkin 1992).

This suggests that Terman was biased. Indeed, in 1995, Holahan and Sears (cited in Freeman 2006, p. 386) found that the Termites (a name given to the participants in the Terman study), when compared to a randomly selected group, had been no more successful as adults despite their high IQ (which was perceived as an advantage). Furthermore, in revisiting the Terman data, Shurkin (1992) revealed that some of the Termites had significant challenges. For example, the suicide rate amongst them was higher than that of the general population. Furthermore, the rate was higher for women than men (the reverse of which is true in the general population) (Shurkin 1992).

This is reflected in the case of Sara Ann, a Termite who wrote to Terman about her chronic depression and feelings of disquietude (Shurkin 1992). Despite having an IQ of 192 and earning a PhD, she was unable to gain traction in her career (Robson 2019), yet Terman contradictorily reported that she was calm, attractive, bright, and well-adjusted (Shurkin 1992). Other women in his study went on to use their abilities only in support of their husband's careers (Shurkin 1992; Robson 2019). This makes sense, given the women in the study were almost certainly limited by the social expectations placed on them at that time and measured as successful according to different criteria. For example, eugenicists around that time believed that the role of intelligent women was only to produce children of good stock (Kasper 2003).

1.6. Gifted and talented

The Terman study highlights the debate between the effect of environmental (nurture) and genetic factors (nature) on giftedness and

achievement (Rimm, Siegle & Davis 2018). Some models of giftedness focus more on how environmental factors contribute to later success where giftedness is developmental, and defined by potential, achievement, and eminence:

> Giftedness is the manifestation of performance or production that is clearly at the upper end of the distribution in a talent domain even relative to that of other high-functioning individuals in that domain. Further, giftedness can be viewed as developmental, in that in the beginning stages, potential is the key variable; in later stages, achievement is the measure of giftedness; and in fully developed talents, eminence is the basis on which this label is granted. Psychosocial variables play an essential role in the manifestation of giftedness at every developmental stage. Both cognitive and psychosocial variables are malleable and need to be deliberately cultivated. (Subotnik, Olszewski-Kubilius & Worrell 2011, p. 7)

According to this definition, the child is gifted if they display potential and the adult is gifted if they achieve or become eminent. This suggests that a gifted child may not become a gifted adult if the condition of achievement or eminence is not met. However, factors other than intelligence can contribute to achievement such as motivation, drive, commitment, and opportunity (Subotnik, Olszewski-Kubilius & Worrell 2011). Here, the domains can include music or sport which aligns this conceptualisation with that of the Multiple Intelligences Theory.

Moreover, Gagné (1995) differentiates *gifted* from *talented* where gifted refers to *natural above average ability* in one or more domain whereas talent refers to *mastery* in one or more domain. This is known as the Differentiated Model of Giftedness and Talent (DMGT), which has also been adopted as the definition of giftedness by the Queensland Association for Gifted and Talented Children (2022). It is thought that talent can be developed through early enrichment and acceleration, which are considered strong predictors of future success (Subotnik, Olszewski-

Kubilius & Worrell 2011). However, if future success is determined by early enrichment and acceleration, then the results of Terman's study could be explained by that rather than high intelligence. In fact, this has been one of the criticisms levelled at Terman's study (cited in Rinn & Bishop 2015, p. 217).

1.7. Achievement

The other key indicator for giftedness (other than IQ) is achievement. There are some limitations in using achievement as an indicator of giftedness. Giftedness has a strong historical foundation in the education field, and some of the challenges identified by parents and educators of gifted children include underachievement, underperformance, lack of motivation, performance anxiety, extreme sensitivity, social isolation, being bullied, perfectionism, fear of failure, imposter syndrome, frustration, stress, aggression, self-hurt, boredom, low self-esteem, psychological distress, and poor engagement (Silverman 1998; Blackett & Webb 2011; Senate Employment, Workplace Relations, Small Business and Education References Committee 2001; Carmody 2018). These are all factors which could have an impact on performance, and it has been estimated that half of all gifted school children underachieve (1988 Senate Select Committee cited in Senate Employment, Workplace Relations, Small Business and Education References Committee 2001, p. 14). There are other more reliable predicators of achievement. For example, in a study by Duckworth and Seligman (2005) it was found that self-discipline was a better predictor of academic performance than IQ.

Some scholars also believe that gifted children have unique social and emotional needs (Blackett & Webb 2011). Also, that gifted students require special education services and that just like special education students, gifted children have needs that are significantly different from the norm (Fiedler, cited in Burger-Veltmeijer, Minnaert & Van Houten-Van den Bosch 2011, p. 69). With respect to this, the Australian Association

for the Education of the Gifted and Talented (AAEGT) (2006) advocates for the inclusion of giftedness as a special needs group in policy and practice. Recommended strategies for managing the education of gifted children include teacher training, early identification, acceleration, extension, enrichment, differentiation, testing and providing a safe learning environment (Australian Association for the Gifted and Talented Ltd. 2022).

It is unclear however, whether these strategies translate into success or achievement in adulthood and what factors contribute to the realisation of potential (Rinn & Bishop 2015). Very little research has been conducted on gifted adults (Rinn & Bishop 2015; Nauta & Ronner 2016), and even less in relation to their work experiences (Corten, Nauta & Ronner 2006). On this note, while much of the discourse centres around the achievement of potential, it is unclear what this means, how it can be measured, and who gets to determine whether it has been reached.

While some believe that intelligence is a predictor of future success given the right circumstances, it does not follow that the reverse is true. That is, a high IQ is not necessarily a precursor of achievement. As outlined above, achievement can be affected by other factors (including self-efficacy and self-determination) as well as opportunity, effort, practice, perseverance, or determination (Persson 2014). Socioeconomic status (Rinn & Bishop 2015) and societal expectations such as those placed on women can also have an impact on career progression. Discrimination, accessibility, and prejudices are also factors at play. To say that intelligence alone is all that is needed to do well in the world denies the existence of other forces at play and the societal context in which it is expressed.

Numerous examples of teacher attitudes towards giftedness were reported in Gruppetta (2005) which are reflective of this:

> I know this sounds a terrible thing to say but I feel it is terribly unlikely to find a gifted child here [in this area/school], it is possible, but not likely (Mary). (Gruppetta 2005, p. 136).

> I wondered if there is research on whether I.Q. is inherited or environmental? If it was heredity, that has a lot of implications for around here. [Looked around and lowered her voice] There are a lot of lower intellectual types of people here and they tend to marry each other and stay in the same area. I mean that has to have an effect! (Anna) (Gruppetta 2005, p. 136).

These teachers work in Western Sydney which is a disadvantaged geographical area and Gruppetta (2005) suggests that these attitudes represent their entrenched deficit view about residents from the area. The reality is that giftedness transcends geography, class, and employment status.

Interestingly, gifted individuals would probably not be categorised as 'talent' (Persson 2014) when assessed against a business model of talent management by Brown and Hesketh (cited in Persson 2014, p. 48). In this context talent has more to do with the ability to generate profit, to add immediate value, to deliver what the employer wants, and to get tasks done quickly than it does with cognitive ability (Persson 2014). Usually this means that they will be able to 'fit in', participate well in teams, or have considerable interpersonal and people skills (Persson 2014).

Moreover, interpersonal and communication skills, cultural alignment/values fit, and emotional intelligence were identified as the three most important skills that Australian employers look for in their graduate recruitment process (Graduate Careers Australia 2016). Academic results were rated as the 5th most important, with technical skills ranked 7th on the same list (Graduate Careers Australia 2016).

Arrogance was identified as the least desirable characteristic, followed by poor oral communication and poor communication skills. In the workplace, it is possible that appearing to know something may be interpreted as arrogance. Given the social and emotional challenges that are sometimes faced by gifted individuals and the lesser importance placed on academic and technical skills by recruiters, gifted individuals may be overlooked as 'talent' in this context as well.

Moreover, organisational behaviouralist Andre Spicer along with his colleague Mats Alvesson, argue that organisations hire individuals for their intelligence but then reward them for not using it (Spicer 2016). Also, that if a new recruit makes the 'mistake of actually using their intelligence, they will be met with pained groans from colleagues and polite warning from their bosses.' (Spicer 2016, p. 1). This echoes the finding that arrogance is the least desirable characteristic in new graduates.

1.8. The gifted brain

Regardless of whether gifted children grow up to achieve or become eminent, it can be said that gifted brains are different (Streznewski 1999), unusual (Piechowski & Colangelo 1984), and not neurotypical (Duncan et al. 2017a). In fact, intelligence test results have been shown to correlate with neuroscience findings from brain-imaging and genetic studies (Deary, Penke & Johnson 2010).

The gifted brain is no bigger than the average brain, however it has greater regional volume and more grey matter (Haier et al., cited in Duncan et al. 2017d). There are differences in the frontal, temporal and parietal lobes which suggestively translate into qualitative differences (Duncan et al. 2017d). These three lobes are responsible for an array of functions. The frontal lobe for example, has a role in memory, attention, motivation, decision making, short-term memory, executive function,

language, mood, personality, affect, self-awareness, social and moral reasoning (Chayer & Freeman, cited in Duncan et al. 2017d). Auditory processing and memory encoding, processing emotions, language interpretation and aspects of visual perception are functions of the temporal lobe (ABIOS, cited in Duncan et al. 2017d), while attention, integration of information and sensory perception, and connection of perception to action relate to the parietal lobe (Lingford-Highes & Kalk, cited in Duncan et al. 2017d).

The gifted brain has more connections as well as greater connectivity between hemispheres and across brain regions (Sousa 2009; Duncan et al. 2017b). It is also able to process information more efficiently (Deary, Penke & Johnson 2010) where network efficiency is positively associated with intellectual performance (van den Heuvel et al. 2009). It is multimodal in that it can organise stimuli from a range of sensory modalities (Eide & Eide 2004). The brains of gifted individuals are also connected differently. This enables gifted individuals to make connections that others cannot, and engage in abstract, associational, or analytical thinking (Eide & Eide 2004). It is what enables them to come up with quirky and unusual solutions or responses to problems (Duncan et al. 2017b).

In functional MRI scans, the gifted brain looks like it is on fire (Eide & Eide 2004). It is an excited, energised brain with increased bilateral brain activation which is more pronounced when presented with challenge. Moreover, the gifted brain is more sensitive and reactive to stimuli (Eide & Eide 2004) and these responses are stronger and longer (Winkler & Voight 2016). As such, gifted individuals are highly sensitive to their environment and have heightened emotional and behavioural responses in reaction to stimuli. It is this reactivity that correlates with enhanced memory (Eide & Eide 2004), a factor in intelligence.

However, there is much discourse around sensory sensitivity as a pathology or disorder. Many gifted children have a sensory processing disorder (SPD) diagnosis and sensory processing issues are now commonly associated with autism spectrum disorder (ASD) (Duncan et al. 2017c). Just like autistic children, gifted children may struggle with loud noises, strong smells, certain textures, and bright lights (Duncan et al. 2017c). Indeed, gifted children hear sound faster and louder (Liu et al., cited in Duncan et al. 2017c). Without proper understanding they may be deemed dramatic and become isolated (Duncan et al. 2017c). The physical pain and discomfort they may experience from sensory information may lead them to exhibit oppositional, defiant, or avoidant behaviour (Duncan et al. 2017c). In addition, it may trigger a fight-or-flight response (Duncan et al. 2017c) typically associated with anxiety.

With respect to anxiety, it has been found that the severity of worry and rumination can be uniquely and positively predicted by high verbal intelligence (Penney, Miedema & Mazmanian 2015). It makes sense then that the volume of two regions in the limbic system associated with emotional processing, are larger (Ohtani et al., cited in Duncan et al. 2017e). It may explain why gifted individuals are emotionally sensitive, more empathic, seekers of meaning in their lives, value truth and justice, and are prone to existential depression (Piechowski & Colangelo 1984; Silverman 1997). It is why they can be deeply moved by beauty or brought to tears by a news story (Tolan 2017).

In the gifted field, these sensitivities or supersensitivities are sometimes referred to as overexcitabilities (OEs) which are derived from Dabrowski's Theory of Positive Disintegration (TPD) (Mendaglio 2012). Hazell (1999, p. 33) describes overexcitability as 'a predisposition in the individual, largely inherited, to respond to certain types of stimuli in an above-average manner'. There are five categories of overexcitabilities including intellectual, emotional, psychomotor, sensual, and imaginational which all

relate to and enhanced or intensified reaction, response, expression, or experience of something (Piechowski & Colangelo 1984). These are supposedly measured by a self-reporting Likert-style questionnaire known as the Overexcitability Questionnaire (OEQ).

Each overexcitability represents different manifestations (Piechowski & Colangelo 1984). A person with the psychomotor overexcitability may appear to be in constant motion, active, restless, and energetic (Piechowski & Colangelo 1984). The emotional overexcitable person may feel more deeply and more intensely than others (Piechowski & Colangelo 1984). They may have a greater self-awareness of feelings about themselves but also towards others in the form of compassion (Piechowski & Colangelo 1984). Experiencing a fuller breadth of feeling, they may be prone to depression and loneliness but also enthusiasm and deep love (Piechowski & Colangelo 1984). Sensual overexcitabilities may be exhibited through the enjoyment of sensory experiences such as that of touch, taste, and smell (Piechowski & Colangelo 1984).

Intellectual overexcitability represents a strong need for mental stimulation but also independent thinking, acquiring knowledge, analysing, questioning, conceptualising, theorising, and philosophising (Piechowski & Colangelo 1984). The love of puzzles, word play, problem solving and truth seeking are all part of this (Piechowski & Colangelo 1984). Finally imaginational relates to a richness in visualising, inventing, or imagining (Piechowski & Colangelo 1984). This might show in the way a person speaks or writes in that they may use metaphors, fantasise, or poeticise (Piechowski & Colangelo 1984).

In their study of OEs, Piechowski and Colangelo (1984) found that the level of OEs vary amongst gifted individuals, but they are consistently present in gifted groups irrespective of age. However, more recently there has been a call for a paradigm shift which questions the assumptions and

use of overexcitabilities in gifted research (Mendaglio 2012). In addition, there have been inconsistencies in the findings amongst studies investigating giftedness and OEs. Dabrowski's framework was initially devised as a developmental model after all and was never meant to describe giftedness. Yet is something which has been adopted by researchers in the gifted field. One of whom is Silverman (Mendaglio 2012), who says that anyone who has ever been described as 'too sensitive' or 'too much' of anything is probably gifted (Silverman 2016).

Moreover, gifted individuals have been described as extremely intense and sensitive, focused but distracted, bored and frustrated, idealistic and emotional, quirky and hyperactive, oppositional, and obsessive (Beljan et al. 2006). Without an understanding of giftedness by health professionals, individuals can be misdiagnosed as having attention deficit hyperactivity disorder (ADHD), Oppositional Defiance Disorder (ODD), Asperger's (now part of Autism Spectrum Disorder), Obsessive Compulsive Disorder (OCD), Bipolar Disorder and more (Beljan et al. 2006). This could be at a rate of more than 25% for gifted children and even higher for gifted adults (Webb et al., cited in Rinn & Bishop 2015, p. 226).

According to Overzier and Nauta (2013, p. 249), 'there are currently no standard mental healthcare interventions that take giftedness into consideration'. This could explain the rate of misdiagnosis. It is interesting to note here, how intelligence can at once be so revered (even *identified* as opposed to *diagnosed*), yet easily mistaken for pathology. That said, giftedness can coexist with disability, and this is known as twice-exceptionality. It can be very hard to establish because of the similarity between gifted characteristics and diagnostic symptoms. For example, sensory sensitivity in ASD and giftedness. Or high energy and distractibility in attention deficit disorder and giftedness.

1.9. Gifted characteristics

Not only do gifted individuals have a different brain (Streznewski 1999), but they also *feel* different (Jacobsen 1999). Giftedness is not fully reflected in intelligence test results or achievement (Streznewski 1999). It is part of a package which includes high intelligence and other accompanying traits and characteristics (Streznewski 1999). While intelligence tests have a place, it is dangerous and reductive to limit the scope of giftedness to a single test score (Streznewski 1999). Indeed, most gifted individuals have never been identified or tested (Jacobsen 1999; Silverman, cited in Fiedler 2012, p. 24). If studies about gifted adults rely on IQ or achievement as the indicators (Rinn & Bishop 2015), then this represents a gap in the research. To truly understand what it means to be highly intelligent, a broader definition needs to be adopted and this is reflected in more contemporary definitions which consider gifted characteristics.

For example, Nauta and Corten (2002) use a definition whereby gifted individuals are characterised by their high level of intelligence (top 2%) as well as various accompanying traits such as speed of thinking, high sensitivity, introversion, emotional sensitivity, creativity, independence, originality, perfectionism, an exploratory learning style and fear-of-failure. They are curious and distractable, quirky, and idealistic.

Dutch researchers have developed an alternative definition of giftedness, which takes into account these characteristics. It is known as the Delphi model:

> A quick and intelligent thinker who can handle complex cases, autonomous, curious and passionate by nature, a sensitive and emotional person, intensely alive, he or she enjoys being creative (Kooijman-van Thiel, cited in Nauta & Ronner 2016, p. 2)

This is reiterated by Jacobsen (1999) who describes gifted individuals as intense, complex and driven, and possessing a strong sense of justice. These characteristics can be both advantageous and problematic (Nauta & Ronner 2016) especially when applied in the workplace context.

1.10. Gifted adults and work

It is these characteristics combined with high intelligence that makes gifted individuals potentially natural innovators in the workplace (Corten, Nauta & Ronner 2006). With a highly integrated brain, gifted individuals are able to quickly learn and generate new ideas, draw on information from multiple disciplines, make connections between things, and develop unique and creative solutions to complex problems (Corten, Nauta & Ronner 2006). They are divergent thinkers. The ability to contribute to innovative processes within an organisation can come naturally to the gifted worker (Corten, Nauta & Ronner 2006). However, they need some degree of recognition and a favourable work environment in which to do this (Corten, Nauta & Ronner 2006).

Even though giftedness is lifelong, very little research has been conducted in relation to gifted adults (Rinn & Bishop 2015; Nauta & Ronner 2016) and even less in relation to giftedness in the workplace (Corten, Nauta & Ronner 2006). One study by Van Geffen (cited in Corten, Nauta & Ronner 2006, p. 11) has identified that gifted individuals prefer work environments that offer flexibility, developmental opportunities, little hierarchy, few procedures, and productive conflicts.

This was supported by the results of a study conducted by Persson (2009), which explored factors contributing to job satisfaction in gifted individuals. This is important because satisfaction can have a positive impact on productivity (Robbins et al. 2014) and emotional stability (Schultz & Schultz, cited in Siekańska & Sękowski 2006, p. 76). It found that the participants who were most satisfied, held higher-level leadership

positions where they were afforded more autonomy and challenge (Persson 2009). For example, managers and entrepreneurs.

Except, gifted individuals are often seen as difficult (van der Waal, Nauta & Lindhout 2013) and tensions can arise in a team when the leader is significantly more intelligent (Judge, Colbert & Ilies 2004). They question authority, form independent opinions, and challenge the status quo (Willings 1985; Persson 2014). As a result, they are less likely to be promoted (Willings 1985). They also do not perform well in job interviews (Furnham, cited in Persson 2014, p. 49). Yet both promotion and interview performance are essential if progression into a potentially more satisfying leadership position is to occur, as identified in the Persson study (2009).

The other participants in the Persson (2009) study, who were not in a position that afforded them autonomy or influence, were found to be indifferent and resigned to their situation. It was suggested that the solution lies with the organisation making adjustments to meet the needs of the gifted, for example providing more challenge and autonomy. Managers may also benefit from training in order to fully understand the needs of the gifted, including how to get the best out of them (Persson 2009). However, there is little empirical research on this topic (Nauta, Ronner & Brasseur 2012). This is important not just from a utilitarian point of view but also a humanist one (Persson 2014). Streznewski (1999) suggests that if gifted individuals are not stimulated enough in the work environment, they may become impaired. However, it is unclear what is meant by impairment and what that looks like in this context.

Gifted individuals have also been described as having a social disability (Vinke, cited in Corten, Nauta & Ronner 2006). Their differentness can result in them experiencing difficulties understanding and relating to others (Silverman 1997) and as a result, they can become stigmatised

(Cross, Coleman & Terhaar-Yonkers 2014) and socially isolated (Silverman, cited in Lewis & Kitano 1992, p. 2). This can lead them to hide their abilities, in order to pass as 'normal' and gain some level of social acceptance (Silverman 1998; Streznewski 1999).

Moreover, difference can be interpreted by others as a threat to the social cohesiveness of a group (Persson 2014). This can lead to threat responses such as bullying, ridicule, or exclusion (Persson 2014). As gifted individuals challenge the way things are done and are driven to create, they are particularly susceptible to this (Persson 2014). New ideas threaten the prevailing order, yet they are necessary for innovation. Kotleras (2007) describes these responses as workplace mobbing which is a systematic and targeted kind of bullying or harassment. Remembering that gifted individuals are particularly sensitive with longer lasting reactions, this can be quite traumatic for them as compared to an average person (Kotleras 2007).

It makes sense then that gifted individuals are more prone to burnout in the workplace (Nauta & Ronner, cited in Elshof 2016, p. 2). Their perfectionism, idealism, and desire to make change, coupled with their sensitivities may provide the perfect conditions for the experience of exhaustion, stress and burnout (Kotleras 2007; Elshof 2016). This is another area where more research is needed (Elshof 2016). Indeed, it can be seen from the literature review that more research needs to be done with this vulnerable, misunderstood and under supported group. With a focus of research on giftedness in children, little is known about the gifted as adults and this in itself represents a significant gap in the research. Do gifted children really become successful in every possible way as Terman (Rimm, Siegle & Davis 2018) concluded in his important study? Or as newer evidence suggests (Nauta & Ronner 2016), are they experiencing significant difficulties in their workplaces because of their giftedness?

Ultimately, the current research will be guided by the following question: *what is the experience of gifted adults in the workplace?*

CHAPTER 2: METHODS

To answer the research question, a systematic literature review was conducted using the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) 2009 statement (Moher et al. 2009) as a guideline. The PRISMA guidelines include a 27-tem checklist for the reporting of reviews (see Appendix B), a four-phase flow diagram and a 17-item checklist for the preparation of protocol (see Appendix A). Following established guidelines for the conduct of the review, ensured the methodological rigour, integrity, and quality of the review (Moher et al. 2009; Moher et al. 2015). As the topic is an under-researched area, the aim in adopting this method was to not only answer the research question, but to provide an overview of the existing literature, offer new interpretations of data extracted from across multiple studies, and identify gaps where future research efforts may be directed (Petticrew & Roberts 2006; Moher et al. 2009; Ireland 2014).

2.1. Protocol

The systematic literature review was carefully planned around the PRISMA-P checklist (Shamseer et al. 2015) which established the protocol for the review (see Appendix A). The PRISMA-P checklist is an extension of the PRISMA statement (Moher et al. 2009) and lists items that should be included in the review protocol. Protocols describe the rationale and planned methods for reviews and are useful in ensuring a quality review which complies with standard practice.

Once decisions around the protocol were made and a plan was determined, the review was conducted. Even though the most recent version of the PRISMA statement at that time was published in 2009 (Moher et al. 2009), the updated 2020 checklist (Page et al. 2021) was used for the reporting (see Appendix B).

2.2. Eligibility criteria

The eligibility criteria established for the review were informed by the research question. Only studies about gifted adults (as defined by the authors of the studies) in the workplace were included. This could have included studies which also mentioned ASD or OCD, but where the focus was still primarily on the gifted experience. To be included, studies must have been (1) specifically related to gifted adults as opposed to adolescents or teenagers, (2) in a work setting, (3) about experiences in the workplace, not just the concept of work or careers, and (4) a discrete study which presented findings.

As there is a paucity of research on this topic, grey literature was included. It was hoped that this would provide a broad overview of what research has been undertaken and eliminate publication bias (Ireland 2014). This meant that theses, reports, and books were included in the review then further subjected to a quality appraisal to ensure they were sound. For the same reason, studies were not limited by the year they were published, geographical location, or study design.

Any studies which focused on career patterns, career planning, career outcomes, career decision-making, or career choices were excluded. Likewise, retrospective studies on the career achievements or outcomes of gifted adults based on earlier measurements (such as achievement at school) were excluded. These studies were considered too broad in their scope to be included in the review because the review was specific in its focus on the experiences of gifted adults in the workplace.

Furthermore, studies were excluded if they were (1) not in English, (2) about other kinds of intelligence, such as emotional intelligence (3) an interpretation of someone's experiences provided by a secondary source, such as a clinician or colleague, (4) a review of the literature or narrative summary which did not present new findings, or (5) a study about

something else where experiences in the workplace are mentioned, but only as an aside. If it was unclear in the study whether the participants were gifted, then the study was also excluded.

2.3. Information sources

Information was obtained from electronic databases and through hand searching. Databases searched were selected for their relevance to the topic and its associated disciplines. These were identified as education, psychology, business, and the humanities. As such the following electronic databases were accessed in the period from February to March 2020: EBSCOhost megafile ultimate (specifically Academic Search Ultimate, APA Psyc Articles, APA PsycInfo, Business Source Ultimate, eBook Collection, Education Research Complete, E-Journals, ERIC, Humanities Source Ultimate, MasterFILE Premier, MasterFILE Reference eBook Collection, Psychology and Behavioural Sciences Collection, Sociology Source Ultimate), Google Scholar, ProQuest, SAGE Journals, Scopus, Taylor & Francis, and Web of Science.

Google Scholar and ProQuest were used as a cross-check to ensure all relevant literature was captured, particularly grey literature (Ireland 2014). ProQuest is a specialised repository for dissertations and theses. Hand searching was also conducted for completeness (Ireland 2014). This involved manually scanning reference lists for any additional relevant literature not identified in the initial searches.

2.4. Search strategy

In developing a search strategy, key search terms were identified using database thesauri. From these, search strings were developed and finalised in consultation with a research librarian. The search strings varied depending on the database used, while still reflecting the core search terms. The search strings were tested in each database before the final search was conducted to ensure that the strings were sensitive

enough to pick up all the relevant literature while filtering out the irrelevant papers (Ireland 2014). For example, papers relating to emotional intelligence as opposed to cognitive intelligence.

The search strings used for the database searches are summarised in the table below.

Table 1 Search Strings

Database	**Search String**	**Fields Searched**	**Limits**
EBSCOhost	gifted* AND adult* AND (work* OR employ* OR career OR job)	Abstract	English language
Google Scholar	job OR career OR occupation OR employ "gifted adults"	Anywhere	English language; unchecked patents and scholars
ProQuest	gifted* AND adult* AND (work* OR employ* OR career OR job)	Abstract	English language; limited to dissertations and theses, scholarly journals, books, and conference proceedings
SAGE Journals	gifted* AND adult* AND (work* OR employ* OR career OR job)	Abstract	Did not have the option to limit by language. Chose by abstract
Scopus	gifted* AND adult* AND (work* OR employ* OR career OR job)	Title-Keyword-Abstract	English language
Taylor & Francis	gifted AND (work OR employ OR job OR career)	Title	Did not have the option to limit by language
Web of Science	TS=(gifted* AND adult* AND (work* OR employ* OR career OR job))	All document types	English language

The database searches were conducted by three researchers in February and March 2020 to validate the search results. The search results were

then imported into EndNote. This included the first 40 pages (400 records) from the Google Scholar search, exceeding the recommended 30 pages (300 records) by Haddaway et al. (2015) for thoroughness. The hand search results were manually added.

2.5. Selection process

The selection process was supported by the PRISMA flow diagram (Moher et al. 2009) and managed in EndNote. The PRISMA flow diagram documents the number of studies identified, screened, eligible, and included and is presented in the results section below (Moher et al. 2009). Duplicate records were removed both manually and using an automatic function within EndNote. The search results from each database were imported into EndNote under a separate 'group set' which organised records according to their source. Hand search records were manually added for completeness. The number of records from each data source were included in brackets as a record of the initial search results before duplicates were removed.

As per the PRISMA flow chart (Moher et al. 2009), records were screened in two phases. In the first phase, titles and abstracts of the records were screened by three reviewers. The records were divided in half, and one reviewer screened all the records while the other two reviewers screened half each. This was conducted independently and in accordance with the defined eligibility criteria. The outcomes of the screening were recorded by each reviewer in separate Excel spreadsheets and then compared to the results of the first reviewer.

Any discrepancies were discussed before a decision was made about whether to include the record in phase two of the screening. Any disagreements at this stage were documented and resolved by referring the record to the third reviewer for further discussion and a decision. The

records which progressed to phase two of the screening process were then isolated within EndNote to allow them to be easily identified.

This process was then repeated for phase two of the screening. In this phase, reviewers screened the full text for each record. If a record was excluded in phase two, the reason for exclusion was recorded in the Excel spreadsheet. Some of the reasons for exclusion were there was too much quantitative data and not enough qualitative that tells us about experiences in the workplace (as per the research question), not presenting new findings, not enough data about work or employment, reviewing previous literature or a narrative literature review, opinion pieces and they were about gifted education, predicting outcomes of the gifted population or career patterns instead. These are in line with the eligibility criteria which were determined at the outset of the review.

2.6. Data collection process

Data was manually extracted from the final included records by a single reviewer using a customised data extraction table. The table was informed by textbook examples, and those used in published reviews (Petticrew & Roberts 2006; Booth, Sutton & Papaioannou 2016; Gilmour et al. 2020). There was no process needed for obtaining or confirming data from study investigators as the required data was available in all the included studies, as per the stated inclusion criteria.

2.7. Data items

The variables for which data was sought determined the headings of the data extraction table. This included the (a) study citation, (b) the type of study such as journal article, thesis, or report, (c) a description of the study, (d) participant information including recruitment, sampling criteria, sample size, and participant characteristics, (e) the origin of the study, and the (f) methodology and synthesis approaches used. The findings

from each study were presented in a separate table (Table 2) for ease of reference.

2.8. Study risk of bias assessment

The Joanna Briggs Institute's (JBI) Critical Appraisal Tools (Joanna Briggs Institute 2020) were used to assess the quality and trustworthiness of the included studies. There are several checklists available on the JBI website to use for this purpose however only two were relevant, and therefore used in this review. These were the JBI Checklist for Qualitative Research and Checklist for Prevalence Studies (Joanna Briggs Institute 2020).

While the quality of the studies was appraised in this way, no studies were excluded on this basis as there is already so little literature available on the topic. Rather it was decided that the studies would be included irrespective of their quality review outcome, but that the quality would be reported on if the results were noteworthy. Nevertheless, none of the studies were eligible for exclusion solely on the basis of their quality.

Three reviewers conducted the quality appraisal. One researcher reviewed all the included studies, while the other two researchers reviewed half of the studies each. The results were then compared and discussed for congruity. The checklist templates were transferred into Excel and completed there, so that the appraisal results could be retained within a central repository.

2.9. Synthesis Methods

A qualitative synthesis of the data was conducted in order to identify themes and produce a narrative summary of the findings (Braun & Clarke 2006). This was conducted using NVivo, a qualitative data analysis software program and involved the coding of primary data presented in the studies. For example, if a study participant discussed feeling bored at work, then the code 'bored' would be assigned to that passage. The

included studies, except for a book, were imported into NVivo so that they could be coded. The book was reviewed outside of NVivo as an electronic version was not available. Instead, codes were recorded on paper and only these were manually entered into the system.

The coding was initially conducted by one researcher. Once the initial coding was complete, the codes were transferred into an Excel spreadsheet where they were organised into groups according to fit. That is, codes that related to the same experience were grouped together. Through this process, patterns began to emerge, and three main categories were identified. The codes were then organised underneath the categories to map and synthesise the findings, drawing on the framework of Braun and Clarke (2006).

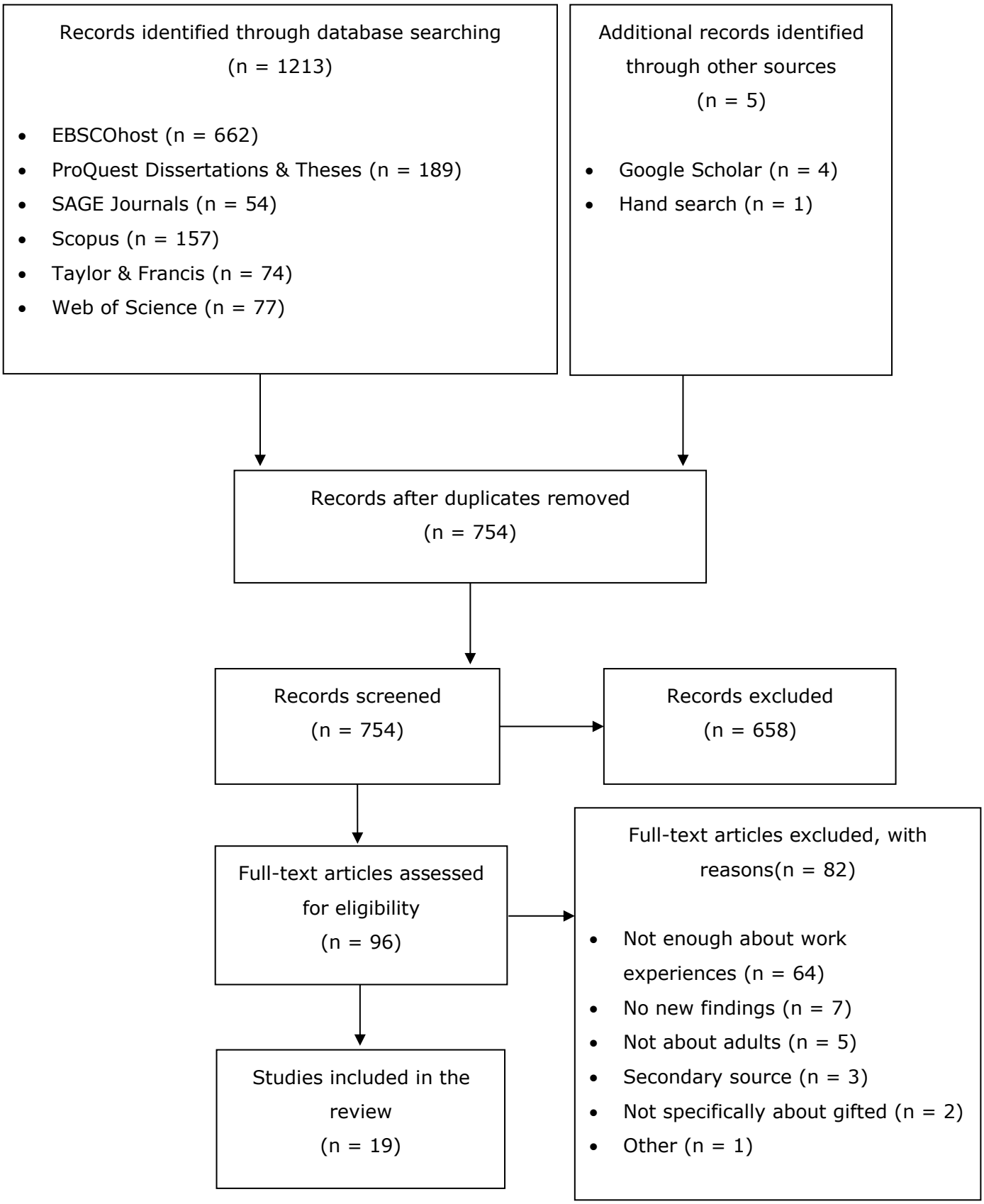
CHAPTER 3: RESULTS

The following sections present the results from the method described in the previous section which includes the outcomes of the searches conducted, as well as the screening processes, which aimed to identify and explore the experiences of gifted individuals at work. The presentation of the results was guided by the protocol established prior to the review, and the PRISMA statement itself and are presented in two separate Chapters. The first (Chapter 3) presents the results from the search and selection process and includes a summary of the included studies. This includes broad observations about the included studies as well as an in-depth interpretive analysis of the raw data within the studies, which was used to identify the themes as they relate to the research question. The second (Chapter 4) presents a qualitative synthesis of the data as it relates to each identified theme and ultimately, the research question.

3.1. Study selection

The results from the search and selection process are presented in the PRISMA flow diagram (Moher et al. 2009) below.

Figure 1 PRISMA Flow Diagram



The total number of records identified through database searching was 1213. The breakdown of the results from each database search is also included in the flow diagram (EBSCOhost = 662, ProQuest = 189, SAGE Journals = 54, Scopus = 157, Taylor & Francis = 74, Web of Science = 77).

The Google Scholar search result was included as an 'other source' in the flow diagram above. This is because Google Scholar was always intended to be used as a check to capture any articles missed in the database searches (Ireland 2014). The first 400 records (40 pages) of Google Scholar were scanned (Haddaway et al. 2015) and imported into EndNote. This exceeds the recommendation for screening the first 200-300 records of grey literature in Google Scholar (Haddaway et al. 2015). This was done for completeness, and to ensure all relevant articles were picked up. In the end, only four records were put forward for screening.

A small number such as this from Google Scholar suggests that the search strings developed were sensitive enough to pick up all the relevant records (Ireland 2014). Similarly, a comprehensive hand search resulted in the identification of nine records and only one of these was put forward for screening as only one warranted further examination against the inclusion criteria. In total, only five records were identified through other sources. After duplicates were removed, there were 754 records left for screening.

Of the 754 records screened by title and abstract, 658 were excluded. The full texts of the remaining 96 records were screened and of these, 82 were excluded. Along with the five records identified through other sources, the resultant 19 studies were found to have met the inclusion criteria for the review and as such, comprise the dataset for this body of research.

One of the items (16b) on the PRISMA statement checklist requires researchers to cite studies that might appear to have met the inclusion criteria but were ultimately excluded (Page et al. 2021). The research team involved in the screening and selection of records for this review are confident in the parameters that were established from the outset and believe they have provided a clear basis on which decisions could be made. However, two notable books from within the field of research were excluded and the reasons for this will be addressed here specifically. They are 'The Gifted Adult: A Revolutionary Guide for Liberating Genius' (Jacobsen 1999) and 'Gifted Workers: Hitting the Target' (Nauta & Ronner 2016). Both books provide case study examples about gifted adults that the authors have worked with in a clinical or therapeutic setting. While this touched on the topic of work, especially in the latter, the books were ultimately excluded because they were not discrete studies; nor was the data direct from the primary source. Rather, they provided an interpretation of the subjects' experiences from the perspective of the author(s).

3.2. Study characteristics

The 19 studies included in the review are summarised in Table 2 below.

Table 2 Overview of Studies Included in the Review (n=19)

	Study	Type	Description	Participants	Origin	Methodology
1	Grant 2016	Journal Article	Describes feelings, behaviour, and experiences of a twice exceptional adult from childhood to midlife	One participant; male; gifted adult with Asperger Syndrome (AS) and Obsessive Compulsive Disorder (OCD)	USA	Qualitative; self-reflection
2	Grooff 2017	Thesis	Explores factors impacting the innovative work behaviour of gifted employees	6 Dutch gifted adults; 3 men and 3 women; various occupations	Netherlands	Qualitative; multiple case study using semi-structured interviews with the gifted individuals and their supervisor/co-worker/associate; also documents regarding work behaviour e.g. job description or evaluation; findings were sorted and aggregated then cross-case synthesis was used
3	Johnson 2017	Thesis	Explores the learning experiences of high potential (gifted) individuals who have	14 young adults (7 male, 7 female); aged from 23-39 years; of high potential and considered successful in	USA	Qualitative using grounded theory; screening questionnaire; intensive interviewing, observation, and artefacts; constant comparison analysis

	Study	Type	Description	Participants	Origin	Methodology
			achieved career success in early adulthood	their career; various occupations		
4	Kitano 1997	Journal Article	Explores factors affecting the achievement of gifted Asian American women	15 Asian American gifted women (7 Chinese American, 5 Japanese American, 2 mixed ancestry and 1 Filipina) who have achieved in their field; aged from 31-54 years	USA	Qualitative; semi-structured interviews with participants and their parents (or other knowledgeable individuals)
5	Kitano 1998	Journal Article	Explores factors affecting the achievement of gifted Latina women	15 Latina gifted women (3 of Puerto Rican origin and 12 Mexican American) who have achieved in their field; aged from 33-49 years; 12 parents (or other knowledgeable individuals)	USA	Qualitative; semi-structured interviews with participants and their parents (or other knowledgeable individuals)
6	Kotleras 2007	Journal Article	Describes how and why gifted individuals may experience mobbing in the workplace	The author; 1 male 'extraordinarily gifted' ex-child	Unknown	Qualitative; self-reflection

	Study	Type	Description	Participants	Origin	Methodology
7	Lundstrom 2014	Thesis	Investigates personal experiences contributing to the underachievement of gifted women	12 gifted women/Mensa members; aged between 21 and 62; who have experienced underachievement in adulthood	USA	Qualitative interview research method; qualitative data analysis based on Moustakas' modification of Van Kaam's 7 steps
8	Merriam 1984	Thesis	Explores the development of gifted, eminent adults whose abilities were not apparent until adulthood.	5 eminent/gifted adults whose abilities were not apparent until adulthood; aged from 41-55 years; various fields	USA	Qualitative; phenomenological; preliminary survey to determine suitability for study; interviews; inductive analysis
9	Moltzen 2005	Thesis	Investigates the life story of gifted New Zealand adults	28 New Zealand gifted high achievers; 4 across 7 domains; nominated as experts; 16 male and 12 female	New Zealand	Qualitative; life history inquiry; semi-structured in-depth single interviews; analysis undertaken using QSIUD*IST (R) 3.0 software; data categorised into themes
10	Nauta, Ronner &	Web Article	Surveys gifted employees' about their supervisor preferences	117 Dutch Mensa members (55 men, 59 women, 3 unknown gender)	Netherlands	Qualitative using a survey

	Study	Type	Description	Participants	Origin	Methodology
	Brasseur 2012					
11	Perrone et al. 2010	Journal Article	Examines career expectations and outcomes of academically talented high school students 10 and 20 years post high-school graduation	Participants were academically talented high school students; 87 participants (32 male, 55 female)	USA	Qualitative; longitudinal; surveys distributed 10 and 20 years after high-school graduation; phenomenological; analysis conducted using codes and generation of themes; matching expectations and realities using job titles and responsibilities
12	Persson 2009	Journal Article	Investigates whether gifted individuals are satisfied with their chosen career path and factors which may affect this	287 Swedish Mensa members; 216 men (75%) and 71 women (25%); average age 34.4 years (SD = 8.8); age range 18-68 ye[ar]s; IQs ≥ 98th percentile	Sweden	Mixed methods; survey; content analysis for qualitative data using the VSAIEEDC Model; descriptive frequency analysis for quantitative data
13	Scott 2012	Thesis	Seeks to understand the experiences of gifted adults in the workplace	8 Mensa International members (3 men, 5 women); aged from 28-72 years; workforce members for ≥ 10 years;	USA	Qualitative; heuristic inquiry based on Moustakas' approach; in-depth interviews; artifacts

	Study	Type	Description	Participants	Origin	Methodology
14	Shareef 2015	Thesis	Explores the interaction between self-concept and organisational fit in gifted adults	322 employed adults who were labelled as gifted at school	USA	Mixed methods using a quantitative survey with 2 qualitative questions; PLS-SEM involving factor analysis and path analysis; descriptive analysis; identification of themes in qualitative data
15	Streznewski 1999	Book	Presents experiences of gifted adults' lives	100 gifted adults; aged from 18-90 years	USA	Qualitative; interviews using a set of 104 index cards to prompt discussion on a range of topics including work
16	Tirri & Koro-Ljungberg 2002	Journal Article	Investigates critical incidents in the lives of female Finnish scientists which have impacted on their ability to actualise their talent	11 gifted and successful Finnish female scientists (5 professors and 6 mathematical Olympians)	Finland	Qualitative multiple case study; critical incident method; interviews; artefacts (CVs) and field notes; data from a previous quantitative survey
17	van der Waal, Nauta & Lindhout 2013	Journal Article	Asks gifted workers about labour disputes they have experienced	7 gifted people who have had > 2 labour conflicts (Mensa/IQ test)	Netherlands	Qualitative; exploratory study; interviews; descriptive
18	Vos et al. 2016	Report	Compares the positive outcomes of work conflicts experienced by	89 participants; 46 gifted (Mensa/IQ test), 26 feeling-gifted (Delphi-model) and 19 non-gifted adults	Netherlands	Qualitative; survey; identification of themes; statistical analysis using GraphPad Prism 5 (ANOVA, Bonferroni, chi-square tests)

	Study	Type	Description	Participants	Origin	Methodology
			gifted and non-gifted workers			
19	Vreys, Venderickx & Kieboom 2016	Journal Article	Investigates how the strengths and needs of gifted adults fit with their current job and any barriers that hinder them at work.	48 respondents to the first survey (7 IQ tested and 42 not tested but recognised themselves as gifted) and 35 respondents to the second survey (22 tested and 13 non-tested)	Belgium	Mixed methods; two surveys including Likert-Scale and open-ended questions; statistical analysis using non-parametric tests and SPSS

As can be seen from the table above, the dataset comprised nine journal articles (Kitano 1997, 1998; Tirri & Koro-Ljungberg 2002; Kotleras 2007; Persson 2009; Perrone et al. 2010; van der Waal, Nauta & Lindhout 2013; Grant 2016; Vreys, Venderickx & Kieboom 2016), seven theses (Merriam 1984; Moltzen 2005; Scott 2012; Lundstrom 2014; Shareef 2015; Grooff 2017; Johnson 2017), one web article (Nauta, Ronner & Brasseur 2012), one book (Streznewski 1999), and one report (Vos et al. 2016). What is noteworthy here, is that there is a high proportion of theses in the review, almost equaling the number of included journal articles.

Of the seven theses, four (Scott 2012; Lundstrom 2014; Shareef 2015; Johnson 2017) contain clues that suggest the research was personally motivated or that the phenomenon itself is experienced by the researcher. These were found in the dedications, acknowledgements, or bodies of the theses. For example, Scott (2012, p. 28) candidly states that 'This researcher has personal experiences as a gifted individual in the workplace and this researcher was passionate about the question of how similar or different her experience as a gifted working adult are to other gifted individuals' experiences'. This may contribute to some bias within the studies, as is the nature of interpretivist research. It further indicates that the research being conducted on gifted adults is being driven by 'insiders' or gifted adults themselves, and that they perceive a need for research in this field to improve the social understanding of this under researched group and their experiences.

The studies included in the review range in date from 1984 to 2017. After the thesis by Merriam (1984), the next oldest study was produced by Kitano (1997). This means that in a 20-year period from 1997-2017, only 18 studies arose which met the search parameters for this review. Furthermore, nothing has been produced within the past five years to up until 2020. This is reflective of the small amount of literature available on

the topic, even though early pioneers in the gifted education field of research were publishing as far back as the 1920s (Kasper 2003).

The studies appear to originate from within two distinct geographical regions, which could reflect the level of interest in the field at these locations. The seven studies from Belgium (Vreys, Venderickx & Kieboom 2016), the Netherlands (Nauta, Ronner & Brasseur 2012; van der Waal, Nauta & Lindhout 2013; Vos et al. 2016; Grooff 2017), Sweden (Persson 2009), and Finland (Tirri & Koro-Ljungberg 2002) could be grouped together to form a 'Northern European' region of origin. The other distinct region identified was the United States of America, with 10 studies produced (Merriam 1984; Kitano 1997, 1998; Streznewski 1999; Perrone et al. 2010; Scott 2012; Lundstrom 2014; Shareef 2015; Grant 2016; Johnson 2017). Half of these were theses (Merriam 1984; Scott 2012; Lundstrom 2014; Shareef 2015; Johnson 2017). Of the remaining two studies, one was from New Zealand (Moltzen 2005) and the other was of an unknown origin (Kotleras 2007).

The interest in the Netherlands on its own is considerable and worth noting. Of the seven European studies, four came out of the Netherlands alone and the Dutch researcher Noks Nauta, was involved in all of them (Nauta, Ronner & Brasseur 2012; van der Waal, Nauta & Lindhout 2013; Vos et al. 2016; Grooff 2017). Similarly, van der Waal participated to some degree in half of the studies to come out of the Netherlands (van der Waal, Nauta & Lindhout 2013; Vos et al. 2016). In consideration of the studies included in the review and a cursory scan of the literature on gifted adults more broadly, it could be said that the Netherlands is leading the research in this field. However, the USA is also a major contributor.

The number of participants in the studies ranged from one (Kotleras 2007; Grant 2016) to 322 (Shareef 2015) and there was a total of 1208 participants across all the studies. This includes a small control group of

nineteen non-gifted participants (Vos et al. 2016). The remaining 1189 participants were identified as gifted using a variety of measures including achievement or eminence, IQ score, school identified, self-identified, or feeling-gifted. The sample includes a mix of women, men, and unspecified however four studies were specifically about women (Kitano 1997, 1998; Tirri & Koro-Ljungberg 2002; Lundstrom 2014).

In line with the research question posed, which focused on experiences of gifted adults within the workplace, all studies used qualitative methods. This included case studies, qualitative surveys, and interviews. Some studies used mixed methods which incorporated statistical analyses as well, for example in Persson (2009). There are many ways of conceptualising giftedness, and this is reflected in the dataset. For clarity, a Concept Table (Table 3) was created to show not just how giftedness has been conceptualised in each study, but also how it has been measured or identified in participants.

A wide range of conceptualisations for giftedness have been used by the included studies. This reflects the number of conceptualisations that exist in the field of research, and how there is no single agreed upon definition yet. As there is a wide variety of definitions still used in the field, studies were not excluded on this basis.

Most researchers caution against the use of IQ as the sole identifier of giftedness and emphasise other facets of the phenomenon such as achievement, traits, and characteristics. This is reflected in how they then go on to define giftedness as a concept. For example, Vreys, Venderickx and Kieboom (2016) discuss the limitations of IQ test scores and instead emphasise gifted traits. However, they still go on to use IQ test score as one measure of giftedness to identify participants for their study.

Table 3 Concept Table

	Study	Conceptualisation	Measure/Identifier
1	Grant 2016	Not specified/unclear	Standardised test score (99th percentile)
2	Grooff 2017	The Delphi-model (Kooijman-van Thiel 2008)	Membership in gifted organisations including Dutch Gifted Adults Foundation and Dutch Mensa
3	Johnson 2017	Confounds giftedness with high potential, which also focuses on drive, ability, and motivation	Organisations geared towards gifted adults, employer referrals, distinguished alumni programs, coaching programs, and personal referrals
4	Kitano 1997	The Three-Ring Conception of Giftedness (Renzulli 1978)	Achievement
5	Kitano 1998	The Three-Ring Conception of Giftedness (Renzulli 1978)	Achievement
6	Kotleras 2007	Gifted adult characteristics (Roeper 1991)	Identification in childhood by unspecified measure
7	Lundstrom 2014	From the National Association for Gifted Children (2011) which includes performance/achievement in top 10% of one or more domains	Mensa membership – IQ test score in the top 2%
8	Merriam 1984	Children: Renzulli (1977) and IQ Terman (1925) Adults: Albert (1982)	Achievement/eminence
9	Moltzen 2005	Gardner's (1983) Multiple Intelligence (MI) theory	Eminence in Gardner's MI domains
10	Nauta, Ronner & Brasseur 2012	Not specified/unclear	Mensa membership – IQ test score in the top 2%
11	Perrone et al. 2010	Not specified/unclear	Achievement
12	Persson 2009	Gagné (1993)	Mensa membership – IQ test score in the top 2%

	Study	Conceptualisation	Measure/Identifier
13	Scott 2012	High achievement (National Association for Gifted Children 2010) and heightened emotional experiences (Sword 2005)	Mensa membership – IQ test score in the top 2%
14	Shareef 2015	Jacob Javits Gifted and Talented Students Education Act of 1988 which emphasises high performance capability that requires support beyond what is ordinarily provided	Identification in school years
15	Streznewski 1999	Discusses a number of conceptualisations but seems to settle on Gardner and cautions against the use of IQ as the sole identifier	Identified by the researcher based on their professional, prior experience with gifted students and recommendations
16	Tirri & Koro-Ljungberg 2002	Not specified/unclear	Achievement
17	van der Waal, Nauta & Lindhout 2013	The Delphi-model (Kooijman-van Thiel 2008)	IQ test score in the top 2%
18	Vos et al. 2016	The Delphi-model (Kooijman-van Thiel 2008) and Lovecky's (1986) traits	IQ test score for gifted Delphi-model (Kooijman-van Thiel 2008) for 'feeling gifted'
19	Vreys, Venderickx & Kieboom 2016	Cites Kieboom (2015) for traits and Jacobsen (1999). Acknowledges limitations of focusing on IQ test scores	IQ test score or recognition of traits in themselves

Table 3 demonstrates this disconnect between how giftedness is conceptualised and how it is measured. Numerous studies which conceptualise giftedness as something more than an IQ test score, then revert to using the IQ test score as the sole criterion for participation in their study. The alternative appears to be achievement, but this assumes that all gifted individuals achieve. Certainly, giftedness is sometimes

defined and measured by achievement, but it should be noted that this has the potential to bias the results.

None of the included studies used IQ as the sole conceptualisation, however nine used it to identify participants for their study (Persson 2009; Nauta, Ronner & Brasseur 2012; Scott 2012; van der Waal, Nauta & Lindhout 2013; Lundstrom 2014; Grant 2016; Vos et al. 2016; Vreys, Venderickx & Kieboom 2016; Grooff 2017). Of the Dutch articles that specified (three out of four), the Delphi-model was used to define the concept (van der Waal, Nauta & Lindhout 2013; Vos et al. 2016; Grooff 2017). However, all of them then go on to use Mensa membership (IQ based) as the criteria for participation. However, Vos et al. (2016) uses the Delphi-model to identify 'feeling-gifted' participants; distinguishable from 'gifted' participants who they identify with IQ test scores.

Gardner's Multiple Intelligences Theory was used in two studies (Streznewski 1999; Moltzen 2005) and Renzulli's Three-Ring Conception of Giftedness was used in three studies, two of which were from the same author (Merriam 1984; Kitano 1997, 1998). All of these went on to use achievement in some way as the measure of giftedness, and this fits with how giftedness was conceptualised in these studies. Six of the studies used high achievement or potential as the measure (Merriam 1984; Kitano 1997, 1998; Tirri & Koro-Ljungberg 2002; Moltzen 2005; Perrone et al. 2010). The remainder used a combination, or unspecified measures such as identification in school or childhood (Kotleras 2007; Shareef 2015); or researcher identification from referrals and programs (Streznewski 1999; Johnson 2017).

It should be noted that how achievement or eminence is defined is subjective and open to bias and interpretation. It can reflect social and cultural values that are given to certain professions, jobs, or careers. For example, paid work may be valued more than unpaid work because of its

economic value, but that may not mean that a person performing unpaid work has not achieved, or that they are not intelligent. Moreover, it is known that women disproportionately perform low income or low status and unpaid work such as roles with caring responsibilities. Relying on achievement measures only, can therefore result in bias.

3.3. Data synthesis

Of the 19 studies included in the review, 18 were added into NVivo. NVivo is a qualitative data analysis software program which can be used for data syntheses. The remaining study was a book and could not be imported into the program, so it was manually coded separately using pen and paper. A single researcher systematically read through each study and coded the parts which were relevant to the experiences of gifted adults in the workplace. The number and variety of codes varied depending on the type of study and the richness and relevance of the data in relation to the research question. The codes used within the literature, and their corresponding frequency (indicated in brackets) are included in Table 4 below.

Once this process was complete, the codes were sorted and organised into groups that made sense and were alike in meaning. This was an inductive process that involved all three researchers in the research team. Through this, three main categories were identified: the individual, the work, and others. It became apparent that each of the codes sat comfortably alongside at least one of these groups. The resulting organised codes and groupings are presented in Table 4.

Within each of these three main groups, the codes were further grouped and distilled until the themes could be identified. The themes as they related to the individual were: skills and abilities, boredom, burnout, and exhaustion, self and identity, mental health and emotional wellbeing, attitudes about work, past experiences, and achievement. Regarding the

work, the codes were grouped into: the job and the workplace themes. For the others category, the identified themes were: perception of the worker by others, interactions with others and social skills and abilities.

Table 4 NVivo Codes

The Individual				The Work		Others	
Boredom (23)	Boredom, burnout, and exhaustion (44)	Characteristics (2)	Self and identity (201)	Autonomy (2)	Job (274)	Discrimination (10)	Perceptions of the worker by others (105)
Burnout (5)		Compromising self (6)		Availability of work (2)		Obstacles to success (26)	
Exhaustion (2)		Cultural values (19)		Change (1)		Perception of the gifted worker (34)	
Perfectionism (14)		Diagnosis (3)		Flexibility (2)		Prejudices (sexism, racism etc) (24)	
Achievement (24)	Achievement (100)	Disability experience (12)		Income (8)		Receiving feedback (2)	
Achievement strategies (9)		Giftedness signs (28)		Innovation (23)		Sexual harassment (1)	
Adjustment (7)		Gifted identity (12)		Keeping up (2)		Status (1)	
Career goals (1)		Memory (4)		Knowledge and expertise (13)		Stereotypes (7)	
Enablement (4)		Morality and principles (6)		Managing tasks (9)		Conflict (27)	Interactions with others (179)
Exceptionality (5)		Motivations (37)		Pitfalls (8)		Connections (1)	
Fulfilling potential (8)		Neurotypical (1)		Stimulation (intellectual) (22)		Customer interactions (1)	
Obstacles to success (26)		Personality (8)		Suitability of work (25)		Interactions with co-workers (54)	
Pitfalls (9)		Self-concept (16)		Type of work (62)		Leadership (8)	
Recognition (7)		Sensing, sensitivity, intuition (1)		Underachievement (7)		Mentoring (12)	
Anxiety (12)	Mental health/emotional wellbeing (121)	Sensory stimulation (12)		Underemployment (15)		Pitfalls (8)	
Comfortability (4)		Thought processes (7)		Underrepresentation (2)		Social interactions (3)	
Confidence (22)		Understanding self (5)		Underutilisation (2)		Supervisors and managers (40)	
Coping strategies (33)		Values (22)		Volunteer work (8)		Team climate (18)	
Emotions and frustration (22)		Abilities (21)	Skills and abilities (101)	Work outputs (2)		Transparency (1)	
Feeling different (6)		Communication (3)		Work preferences and needs (41)		Trust (6)	

<table>
<tr><th colspan="4">The Individual</th><th colspan="2">The Work</th><th colspan="2">Others</th></tr>
<tr><td>Feeling proud about place of work (1)</td><td rowspan="6"></td><td>Creativity (11)</td><td rowspan="7"></td><td>Work processes (11)</td><td rowspan="2"></td><td>Communication (3)</td><td rowspan="5">Social skills and abilities (29)</td></tr>
<tr><td>Hypervigilance (1)</td><td>Leadership (8)</td><td>Work structure (7)</td><td>Influence (4)</td></tr>
<tr><td>Internal experience (12)</td><td>Learning and talent development (5)</td><td>Learning and talent development (5)</td><td rowspan="8">Workplace (115)</td><td>Social abilities (5)</td></tr>
<tr><td>Mental Health (1)</td><td>Managing tasks (9)</td><td>Obstacles to success (26)</td><td>Social anxiety (4)</td></tr>
<tr><td>Remaining calm (1)</td><td>Problem Solving (29)</td><td>Organisational culture (11)</td><td>Social support (6)</td></tr>
<tr><td>Trust (6)</td><td>Receiving feedback (2)</td><td>Organisational environment (20)</td><td>Social withdrawal (7)</td></tr>
<tr><td>Attitude to work (19)</td><td rowspan="8">Perceptions about work (69)</td><td>Knowledge and expertise (13)</td><td>Organisational fit (13)</td></tr>
<tr><td>Autonomy (2)</td><td>Pas’ experiences' impact (23)</td><td rowspan="7">Past experiences (76)</td><td>Workplace bullying (2)</td></tr>
<tr><td>No effect (2)</td><td>Discrimination (10)</td><td>Workplace mobbing (11)</td></tr>
<tr><td>Perception of work (29)</td><td>Trauma (4)</td><td>Workplace satisfaction (14)</td></tr>
<tr><td>Expectations (10)</td><td>Fortitude (4)</td><td>Workplace success (8)</td></tr>
<tr><td>Influence (4)</td><td>Effect of bullying (8)</td></tr>
<tr><td>Keeping up (2)</td><td>Educational achievement preparedness (7)</td></tr>
<tr><td>Diversity (1)</td><td>Loss of (7)</td></tr>
</table>

As previously mentioned, Table 4 includes not only the codes that were created and used for the studies but also the frequency in which they were used. This can provide an indication of how much (and how widely) the theme has occurred within the dataset. For example, boredom was coded 23 times which suggests it is a prevalent issue for gifted adults in the workplace.

That said, frequency should not be completely relied upon to gauge the importance of a theme. This is because some studies focus only on one aspect of an experience in the workplace. For example, Kotleras (2007) focuses specifically on the phenomenon of workplace mobbing, and this is provided as a firsthand account by the researcher. The concept 'workplace mobbing' ended up being coded 11 times, but it only appeared in the one study. For comparison, 'underemployment' was coded 13 times, but appeared in five studies. Herein is the potential for bias in the results.

Furthermore, there are several studies that introduce an 'intersectional' perspective to what is experienced in the workplace. For example, Tirri and Koro-Ljungberg (2002) explore the lives of gifted, female, Finnish scientists. Here, the participants are not only gifted but they belong to other minority or identity groups that will also inform or impact their experiences. That is, they are culturally distinguishable as Finnish, they are women, and they are in a non-traditional role within a traditionally male dominated industry. These phenomena cannot be examined in isolation of each other. The same could be said for the two Kitano (1997, 1998) studies about gifted Asian American women and gifted Latina women. Similarly, Grant (2016) provides a unique perspective as a gifted and disabled (twice-exceptional) man. These are additional factors that need to be considered in the interpretation of the results.

Table 5 below presents a summary of the findings for the included studies. This includes a brief statement about what each study found, as

well as the themes that apply. The numbers indicated in brackets represent how many of the 12 themes were addressed by each study. For example, Johnson (2017) includes content that relates to seven of the 12 themes. Twelve of the 19 studies (Merriam 1984; Kitano 1997, 1998; Streznewski 1999; Kotleras 2007; Perrone et al. 2010; Scott 2012; Shareef 2015; Grant 2016; Vos et al. 2016; Vreys, Venderickx & Kieboom 2016; Grooff 2017) discuss eight or more themes, which suggests that the themes are repeated across most of the studies. This adds to the credibility of the identified themes. Studies with less tend to be shorter in length or are more specific in their focus. For example, van der Waal, Nauta and Lindhout (2013) talks about three of the 12 themes however it specifically focuses on the labor disputes of gifted employees.

Table 5 Summary of Findings

	Study	Finding	Themes (/12)
1	Grant 2016	Asperger Syndrome (AS) contributed to sensory overwhelm and social and emotional withdrawal. Patience from others and volunteer work was crucial in building self-confidence	•boredom, burnout, and exhaustion •achievement •mental health/emotional wellbeing •perceptions about work •self/identity •skills and abilities •past experiences •job •workplace •perceptions of the worker •interactions with others •social skills/abilities (12/12)
2	Grooff 2017	Team climate, leadership, support, and social abilities were important factors in gifted innovation	•achievement •mental health/emotional wellbeing •perceptions about work •self/identity •skills and abilities •job •workplace •perceptions of the worker •interactions with others •social skills/abilities (10/12)
3	Johnson 2017	Lifewide learning informed career choices that aligned with participants' purpose, which was people or spirituality oriented.	•mental health/emotional wellbeing •perceptions about work •self/identity •skills and abilities •past experiences •job •workplace •interactions with others (7/12)
4	Kitano 1997	Personal and structural obstacles hindered advancement, but work was otherwise highly satisfying	•achievement •perceptions about work •self/identity •past experiences •job •workplace •perceptions of the worker •interactions with others •social skills/abilities (9/12)
5	Kitano 1998	Racism and sexism were obstacles to success and participants responded to these with renewed determination	•achievement •mental health/emotional wellbeing •self/identity •skills and abilities •past experiences •job •workplace •perceptions of the worker •interactions with others (9/12)
6	Kotleras 2007	Mobbing experienced in the workplace resulted in lethargy. More research on recovery from traumatic events is needed	• boredom, burnout, and exhaustion •mental health/emotional wellbeing •perceptions about work •self/identity •past experiences •workplace

	Study	Finding	Themes (/12)
			•interactions with others •social skills/abilities (8/12)
7	Lundstrom 2014	Emotional issues were found to be the reason for underachievement in gifted women	•mental health/emotional wellbeing •perceptions about work •self/identity •skills and abilities •past experiences •job (6/12)
8	Merriam 1984	Influences included informal learning, natural environment, role models, drive, internal motivation, and adaptability	•achievement •mental health/emotional wellbeing •perceptions about work •self/identity •skills and abilities •past experiences •job •perceptions of the worker •interactions with others (9/12)
9	Moltzen 2005	Talent development differed between domains	• boredom, burnout, and exhaustion •achievement •perceptions about work •self/identity •job •perceptions of the worker (6/12)
10	Nauta, Ronner & Brasseur 2012	Gifted employees preferred supervisors who provide clear objectives and autonomy, are people oriented, know the subject area, and were not threatened by them	•self/identity •job •workplace •interactions with others (4/12)
11	Perrone et al. 2010	Expectations versus outcomes was the same for work tasks and training but not for work tasks and duties, suggesting underemployment or unrealistic expectations	•achievement •perceptions about work •self/identity •past experiences •job •workplace •perceptions of the worker •interactions with others (8/12)
12	Persson 2009	Average work and career satisfaction except for individuals with their own company or in leadership positions (where it was high)	•perceptions about work •self/identity •job •workplace (4/12)
13	Scott 2012	Intrinsic drive to produce and use their multipotentiality in the workplace resulted in a frustrating experience for gifted adults	• boredom, burnout, and exhaustion •mental health/emotional wellbeing •perceptions about work •self/identity •skills and abilities •job •perceptions of the worker •interactions with others •social skills/abilities (8/12)

	Study	Finding	Themes (/12)
14	Shareef 2015	Self-concept had a significant impact on organisational fit for gifted individuals and work tenure can affect this relationship	• boredom, burnout, and exhaustion •achievement •mental health/emotional wellbeing •perceptions about work •self/identity •skills and abilities •job •workplace •perceptions of the worker •interactions with others •social skills/abilities (11/12)
15	Streznewski 1999	Gifted workers were not able to fully utilise their capabilities in the workplace	• boredom, burnout, and exhaustion •achievement •mental health/emotional wellbeing •self/identity •skills and abilities •past experiences •job •workplace •perception of the worker •interactions with others (10/12)
16	Tirri & Koro-Ljungberg 2002	There were multiple paths to success. A supportive spouse was identified as the most important life decision	•achievement •self/identity •job •perception of the worker (4/12)
17	van der Waal, Nauta & Lindhout 2013	Conflicts were remarkably different from non-gifted and were a result of identifying and communicating work inefficiencies	•mental health/emotional wellbeing •self/identity •interactions with others (3/12)
18	Vos et al. 2016	Work conflict outcomes were perceived differently by gifted, feeling gifted and non-gifted workers and this should be considered	•achievement •mental health/emotional wellbeing •self/identity •skills and abilities •past experiences •job •perceptions of the worker •interactions with others (8/12)
19	Vreys, Venderickx & Kieboom 2016	Gifted potential was being wasted because their needs were not understood. A gap between their capabilities and job requirements was found	• boredom, burnout, and exhaustion •achievement •mental health/emotional wellbeing •self/identity •past experiences •job •workplace •interactions with others •social skills/abilities (9/12)

CHAPTER 4: RESULTS OF SYNTHESES

The results of the qualitative synthesis are presented in the following pages, with each theme grouped according to the three main groups: Individual, The Work, and Others.

4.1. The Individual

Seven themes were identified as relating to the individual themselves and they were (4.1.1) skills and abilities, (4.1.2) boredom, burnout, and exhaustion, (4.1.3) self and identity, (4.1.4) mental health and emotional wellbeing, (4.1.5) attitudes about work, (4.1.6) past experiences, and (4.1.7) achievement. They will now each be explored in more depth.

4.1.1. Skills and abilities

Of the 19 studies, 10 talked about the skills and abilities that gifted individuals apply in the workplace. In these 10 studies, participants describe themselves as different thinkers, who can quickly understand concepts and apply what they know to identify and solve problems in new ways. The speed and unconventionality of their thinking means that they can arrive at conclusions faster than their colleagues. As a participant in Scott (2012, p. 77) explained:

> I have to keep a perspective that I'm a little different and I don't approach problems the same way other people do. And something that takes me 30 seconds to deal with something that can take somebody else an hour and it frustrates me ….This is not rocket science. Well, to other people maybe it is. It's hard for me to keep that perspective sometimes.

The ability to think quickly can be a source of frustration for the gifted employee and 'keeping perspective' would require some degree of self-awareness and effort. This is supported by another participant who shared: 'I have to stand back and realize that I'm more intelligent than a

lot of my coworkers and prime my self-awareness' (Shareef 2015, p. 94). It might mean that they need to slow down and explain things to others (Shareef 2015).

Gifted employees can be hard workers with an internal drive to learn and contribute to or improve something: 'I can always see where improvement needs to take place and I can always come up with multiple ways to improve something' (Johnson 2017, p. 69). They are perfectionists who strive for precision and the ideal, but their work ethic can result in them undertaking a greater share of the work: 'I get work done faster, but am then given more work. So I carry at least 2x what anyone else does for the same amount. It's annoying' (Shareef 2015, p. 95).

They may not understand how their own high standards and abilities distinguish themselves from others: 'I often find myself wondering why people aren't more like me, in terms of work ethic and doing things as correctly as possible' (Shareef 2015, p. 96). However, sometimes they may not work as hard as they are capable of because 'Everything comes easily. Sometimes that leaves me not wanting to work hard as I can outpace anyone on my natural ability' (Shareef 2015, p. 94) and 'I've figured out how to do as little as possible while appearing like I'm a stellar, hard-working employee' (Shareef 2015, p. 96).

Gifted employees are creative and innovative problem solvers. Problem solving as a skill was coded quite heavily in the data across five of the studies (Merriam 1984; Scott 2012; Shareef 2015; Grooff 2017; Johnson 2017). This is because it is a product of high intelligence. Gifted individuals possess multiple skills and are more knowledgeable than most in their field, which means they can quickly and easily identify problems and inefficiencies, generate ideas, recognise patterns, analyse and

organise information, and create systems. As one participant in Streznewski (1999, p. 27) shared:

> A suggestion is made at a meeting and six ideas go off in my head – fast! I start popping out solutions – the mind goes galloping ahead of everyone else, seeing the point, making the application, remembering it for next time – and wanting to go on to something else.

They may come to be relied upon to provide advice and solutions in the workplace. A participant in Shareef (2015, p. 92) describeed their role in solving problems at work: 'I'm called upon regularly to solve problems and create new systems and approaches to work processes and procedures'. As an example, this could involve writing a computer program to undertake the task and free up time for something else (Merriam 1984).

In Scott (2012, p. 60) another participant explained:

> Things hit my desk when nobody else knows what to do with them. I have a gift for problem solving. I have a gift for problem analysis. One of the things people – when people, especially in this line of work, are dealing with a problem, one of the real challenges is identifying what the problem actually is and I seem to be really good at that.

Gifted employees in the studies also described themselves as adaptable and able to respond to changes in their environment. One exception to this was Grant (2016), a self-researcher who talked about their struggles with unexpected change as a twice-exceptional individual who experiences giftedness and Asperger Syndrome. Also, it can make them susceptible to boredom.

4.1.2. Boredom, burnout, and exhaustion

As gifted employees are quick to learn, they can master their job quickly and become bored in their job. This was identified as the biggest problem of being gifted by one participant in Streznewski (1999, p. 147). Perhaps gifted individuals are even at a heightened risk of becoming bored due to their natural skills and abilities, need for challenge, and anathema of routine. In this review, boredom was grouped together with burnout, perfectionism, and exhaustion. This is because prolonged boredom and under stimulation can result in a phenomenon described as bore-out (Fiedler & Nauta 2020). If bore-out is at one end of a spectrum, then burnout caused by overstimulation would be at the other end (Fiedler & Nauta 2020). However, both burnout and bore-out could result in the same feelings of chronic depletion, exhaustion, and depression. Perfectionism was interpreted as being a precursor and risk factor for burnout.

Of the 19 studies, seven talked about burnout, boredom/bore-out, perfectionism or exhaustion, although boredom was discussed the most (Streznewski 1999; Moltzen 2005; Kotleras 2007; Scott 2012; Shareef 2015; Grant 2016; Vreys, Venderickx & Kieboom 2016). This highlights its significance within the workplace experiences of gifted individuals. Moreover, in the study by Vreys, Venderickx and Kieboom (2016) half of the participants were found to have experienced bore-out due to insufficient challenge. As one participant stated: 'I often feel very bored and frustrated at work, but I have learned to keep myself busy with other things' (Vreys, Venderickx & Kieboom 2016, p. 54).

It could be assumed that this kind of under stimulation only occurs in low status jobs, but as one participant in Scott (2012, p. 59) pointed out, even nuclear physicists perform routine work in their jobs. Perhaps it is unrealistic to expect that work will not be repetitive, and a constant source of challenge. Some gifted employees in fact realised that

intellectual stimulation is a pursuit for outside of work, and instead seek the means to satisfy it through their interests and hobbies (Persson 2009).

Kotleras (2007) compares the absence of intellectual stimulation to sensory deprivation. A lack of stimulation at work could affect employee engagement and lead to an increase in absenteeism and turnover, both of which come at a cost to organisations. Some gifted employees in the studies had come up with some unique strategies for managing boredom at work including doodling, coming up with new inventions and smuggling books into the bathroom:

> I once had a job machining artillery shells on an assembly line. Just in and out. I kept a tally of chalk marks on the machine to relieve the boredom. Then I began to draw elaborate scenes with the chalk marks – one night a snowflake, one time trees and houses. I'm not sure how that job affected me, but I know I'd avoid a similar one. I do have fond memories of the snowflakes and houses, though. (Streznewski 1999, p. 152)

> My current job is like a playpen or a sandbox. I play with all these neat tools; I cut up shapes. The equipment I work with is obsolete. I am continually assigned jobs I have never done on equipment that was not designed to do that. I come up with inventions. I may work on a band saw but I make it do the job of a milling machine. That is how I maintain status in low-status work. If I were limited by the normal constraints of business, I'd leave. They give me a lot of slack. (Streznewski 1999, p. 152)

> When I buy a book I want to read at work, I buy two copies. One I keep and one I cut into small sections and stuff in my shirt. Periodically during the day, I sneak off to the men's room and read… then I can get back to work. (Streznewski 1999, p. 152)

That they even have to employ strategies to 'cope' with boredom at work, suggests that work itself is something to be 'coped with' or even endured. That work is something they are resigned to do out of necessity for an

income, rather than a place to go to fulfil their purpose, use their intellect, and realise their full potential shows just how problematic this narrative is.

When gifted individuals get to the point where they are not learning anymore and want to take on higher level work, they may be prohibited from doing so because they have not completed the necessary formal qualifications or training. As a participant in Streznewski (1999, p. 22) explained:

> I learned the whole job in six weeks and now I'm bored. I guess I'll have to go back to school; I need more training before they will allow me to do the interesting things.

It is interesting how they express this need, as though they could already do the interesting work, if only they were allowed. In this case, the training appears to be viewed as a barrier, rather than an enabler. Conversely, another participant in Streznewski (1999) expressed a lack of confidence in their ability to do the harder job, whilst knowing an easier job would not satisfy them. This presents a kind of internal conflict about the work:

> It scares me because my employers think I am a better litigator than I know I am. I tell myself: You could always take an easier job, one that you know you could do – but you wouldn't like it as much. (Streznewski 1999, pp. 146-47)

The participant quoted above in Streznewski (1999) also referred to their desire for perfectionism, while simultaneously questioning how worthwhile the pursuit of it is. Indeed, it is their perfectionism and drive that can push the gifted employee towards burnout. The risk for burnout is substantial in the gifted population with over three-quarters of participants in Vreys, Venderickx and Kieboom (2016) describing themselves as workaholics.

It is difficult if one works best 'under the gun' (Shareef 2015, p. 101), gives '150% all of the time' (Shareef 2015, p. 92) and does not want to slow down, if that then results in burnout and exhaustion (Moltzen 2005); while the alternative is a kind of sensory deprivation that results in fatigue and bore-out. This is something that comes up in Moltzen (2005) specifically, as this study defined gifted adults by their eminence and drive when determination and grit have been shown to be better predictors of achievement than giftedness alone (Duckworth et al. 2007).

Four of the participants in the Moltzen (2005) study talked about the physical, psychological, and emotional exhaustion they experienced from working too hard and how they had to monitor and manage their energy levels:

> I have learnt to space my energies much better, to use my energies much more efficiently I think, and also in a way that better preserves my equilibrium as a person. The commitment to the hours [led] to a kind of prolonged sleep deprivation that caused serious ructions in my personal life about five years ago. There are still some days where I start at 4:00am and don't finish until later at night, having not had a single break. Those days are fewer now. (Moltzen 2005, p. 176)

Finding an equilibrium and managing energy levels appears to be another example of internal regulation that gifted adults engage in. Just as they regulate the expression of their abilities, they must also regulate their energy usage. A participant in Moltzen (2005) sums this up in saying:

> The drive issue is very complex but one has to build a healthy base or one goes for a trip to the hospital. I get exhausted, pull in, see no one, rest, watch te'evision, don't communicate, then build up gain slowly and work'very fast. I've damaged my nervous system or maybe it's that supersensitivity … I'm dedicated and intense as a person but also know when I've had enough silliness and exhausted my batteries. (Moltzen 2005, p. 175)

Grant (2016) also talks about their sensitivity, which is a characteristic that has been associated with giftedness. In combination with his Asperger Syndrome, Obsessive Compulsive Disorder (OCD) and Tourette's, this is even more pertinent as he struggles even more with sensory sensitivities, social interactions, anxiety, chronic depletion, and emotional exhaustion. It is necessary that he manages his energy levels because 'an hour for me is like four for someone without my limitations' (Grant 2016, p. 75).

4.1.3. Self and identity

All 19 studies included in the review talked about self and identity which includes discussions about motivations, values, giftedness, disability, and self-concept (among other things). It follows that this would be found in all studies, as they are all focusing on a particular way of being. That is, being gifted. How individuals construct their identity and understand themselves is inevitably going to be central to the studies.

Gifted individuals *are* different, and so they *feel* different (Silverman 1998; Jacobsen 1999). How others respond to their difference can impact their self-concept. For example, one participant shared:

> I knew I was smart but I didn't really know. And I can remember being in my 20's and saying things to people and them being like 'You're weird.' And me, thinking instead of 'I'm talking above them', I thought 'Oh I am weird.' (Scott 2012, p. 51)

It can also impact on their self-worth and the perceptions they have about their own abilities. As one participant advised:

> So I really want kids and young adults to know what they have and not to be discouraged. You are going to have to take jobs that are below you and that's it. But for you not to say 'Geez I really am not as good as these people'; that's not the truth. That's not what it is. (Scott 2012, p. 51)

Even Kotleras (2007) who is acutely aware of his own giftedness and what it means, is baffled by others' inability to comprehend things. He expresses some conflict in using giftedness as an explanation for his experiences, even though he knows it probably makes the most sense. Still, to him it seems inadequate.

Bringing their authentic self to work can be problematic for gifted individuals because of their differences and abilities. They may have to choose between expressing their true self or changing to fit the prescribed social norm:

> In the office, they began to call me the walking dictionary, so now my speech adapts to the people around me. It makes me feel fake, but I have to do it. I know I am not like the people with whom I work. (Streznewski 1999, p. 42)

> I fight everyday to fit a "norm" in the workplace in how to speak (I can't use big words), how to think (you need to bring others along with you), and how to go with the flow (please don't boil the ocean). (Shareef 2015, p. 100)

Just like the queer and disabled experience (DeJordy 2008), gifted individuals are forced to compromise themselves to 'fit in' to what is considered normal. Moreover, they feel that they need to adapt to normalising expectations at work, but judgments made by others suggest that their efforts might be perceived by others as insufficient in an effort to fit in think they are good at adapting, but they are not according to

their supervisors and managers (Grooff 2017). This requires a degree of self-monitoring and internal regulation to maintain, which can be exhausting for them:

> I often feel very bored and frustrated at work, but I have learned to keep myself busy with other things. The fact that I always have to hide my true potential really drains my energy. Sometimes it becomes so demotivating, that I feel the desire to look for another job. (Vreys, Venderickx & Kieboom 2016, p. 54)

The fact that individuals feel like they must 'hide' their potential suggests that workplaces are not places where one can 'realise' their potential as these two things can only be at odds with one another. That is, you cannot realise your potential while you are simultaneously trying to hide it. This was expressed by one participant as:

> Doing more either made you look like….a weirdo or a smarty pants, and it's so important in a lot of jobs to not be the outsider. And it feels bad to just play along and do just the expected and go home. I mean I think people should have pride in what they do and try to make it better, but it's not appreciated. (Scott 2012, p. 51)

This 'bad feeling' could represent a level of cognitive dissonance that is experienced by the gifted individual, consistent with their feelings of having to act in a way that is opposed to the way that they feel. This could be interpreted as being incongruent with their values, high standards, drive, and need for authenticity, integrity, quality, and justice. Again, it is a type of internal conflict that requires some management by the individual to attain some semblance of equilibrium:

> Being myself has led to conflict in terms of success. You have to be careful. You can't go around offending people, but it is inevitable that they will feel threatened anyway. There is a tremendous capacity in any system. But I have to be able to get people to do what I want. I have to walk a fine line between doing my job

> well and doing too much; offering too many suggestions for improvement. (Streznewski 1999, p. 141)

Some gifted individuals may choose to not to participate in masking or hiding behaviours that could lead to emotional distress and depression. Instead, they must accept that others may feel threatened by them:

> I should understand that others are only protecting their egos, but I have worked hard for what I have, so don't insult me for using it. (Streznewski 1999, p. 42)

The literature on queer and disabled individuals suggests that disclosure is often a choice (although it is understood that this might not always be the case) (DeJordy 2008). For gifted individuals at work, disclosure is not really an option. Presently, there is a lack of awareness of it within organisations and it is not something that is discussed because it is taboo (Vos et al. 2016). This suggests that there is an element of stigma or shame around it, like 'who do you think you are?' (Vos et al. 2016, p. 19). Perhaps this kind of message is internalised by gifted individuals, and that is why they find it hard to accept their own giftedness or, as in Kotleras (2007), use it to explain their experiences or problems at work.

Others in the literature, embrace their giftedness and attribute it to their success in life:

> I think of myself as a "gifted person" with respect to my intelligence, loving family, beautiful circle of friends, strong healthy mind and body, etc. In that larger sense, being gifted has equipped me to own my life and choose my path in a powerful way. Because of all of my many gifts, not just intellect, I'm grounded and empowered in any life experience. (Shareef 2015, p. 92)

Interestingly, this person does not include work or career in this list. However, they do appear to view their giftedness positively.

Others talk about how giftedness has no effect at work, and how it loses its meaning outside of school. While this might be true, it could also be interpreted as a kind of shunning of the gifted identity as 'people have all kinds of gifts' (Shareef 2015, p. 103). Perhaps, however, it does have no effect when positioned in the right environment: 'It seems like I've found an environment where I am always challenged intellectually, which is a good thing' (Shareef 2015, p. 103). In an unsuitable environment, being gifted could have a disabling effect: 'I think that, in many ways your career field or your career path will determine whether or not your intelligence is an asset or a hindrance' (Scott 2012, p. 52).

4.1.4. Mental health and emotional wellbeing

Of the 19 studies included in the review, 13 discussed the emotional wellbeing of gifted adults at work. Emotional distress does not always come about as a result of boredom. Sometimes it stems from frustration with others and the intellectual disconnect they experience with their colleagues:

> I did work at this company while I was in college, so it wasn't completely 'bang culture shock'…. But as far as an introduction to the general level of understanding in the world, it was painful…. every tech support person has horror stories….(but) they were just dumb as a box of rocks. And I tried to explain to somebody what my job was like and I said 'Well you know, get about a half a dozen house plants, put them in a circle and try to teach them to program a VCR, and this is my life. (Scott 2012, p. 48)

The research to date fails to explore the effects of this kind of frustration on the colleagues of gifted individuals. They may not understand where these feelings are coming from and could interpret them as some kind of manifestation of power, bullying or intimidation: 'It was very aggravating and frustrating to try to explain things to someone - and I have patience but these women would end up crying and running to the boss' (Scott 2012, p. 48).

Striving for perfection and excellence, while at risk of burnout can leave gifted employees feeling stressed, anxious, and insecure:

> Karen is working as an administrative assistant in an academic hospital. She is very dedicated to her work and is always praised for her accuracy and flawless organization of departmental activities. One day, Karen is asked to organize a big medical event for the oncologists in the hospital. "At first, I felt honored, because it showed the respect that others have for my devotion to my work. However, soon my own desire to organize the perfect meeting became a big burden. It felt as if I was constantly balancing on a "loose cord" to keep my own towering ambitions in line with the (much lower) expectations of others. As the conference came closer, I started to work many extra hours and could hardly sleep because I felt so insecure and anxious. Of course the conference went smoothly and well, and I even received an award for my excellent organization skills, but the stress was hardly bearable and unpleasant..." (Vreys, Venderickx & Kieboom 2016, p. 57)

This can have an impact on mental health and emotional wellbeing. Furthermore, the effects of boredom on the mental health and emotional wellbeing of gifted individuals cannot be overstated. One participant in Streznewski (1999, p. 31) described the effect that their boring job had on them: 'I began to have nightmares, irrational fears. I awoke one morning and could not decide what dress to put on. Then I knew my job was making me crazy'.

They may become frustrated or withdrawn, stressed, and depressed as a result of ill-fitting work (Vreys, Venderickx & Kieboom 2016). Lundstrom (2014) found that three of their 12 participants had experienced depression and one had even been hospitalized for it. Irrational and intrusive thoughts about ending life may even be experienced, as described by a participant in Scott (2012, p. 48):

> I was driving on the 79 one morning and I actually thought, 'Wow if I were in a car accident I wouldn't have to go to work'. I was like ok, this is the sign that we have come to the end of the line here.

They may underperform in relation to their actual ability or may become 'crippled' by their own high expectations (Vreys, Venderickx & Kieboom 2016). One of the studies even explicitly concluded that emotional issues were the cause of underperformance in gifted women (Lundstrom 2014) and Kitano (1997) found that self-doubt, low confidence and not being 'enough' were the biggest obstacles faced by participants with regards to achievement.

There is one study that specifically addresses the workplace mobbing (a kind of bullying) of a gifted employee. In it, Kotleras (2007) described his experiences with workplace mobbing, which ultimately resulted in PTSD and financial hardship. His inability to make sense of what was happening to him, led to feelings of frustration and depression as well as illness. Even possessing an understanding of his own giftedness did not help him to make sense of it.

Furthermore, gifted adults at work may become insecure and lose confidence when their suggestions are dismissed:

> I knew that I was smart, but when I was in jobs I would make recommendations and the bosses said 'No, no, that's terrible'; it was a combination of insecurity or

> lack of self-esteem that I would say 'Okay, I guess they know what they're talking about.' And I did that for a really long time. (Scott 2012, p. 48)

It may be that their ideas or recommendations are dismissed because they are unconventional, unusual, or different. In the study by (Grooff 2017, p. 30) almost all of the participants reported feeling anxious, frustrated, angry, lonely or sad because of not fitting in or getting what they wanted: 'People may have the impression I am very confident, but in fact I am a sensitive little boy' (Grooff 2017, p. 30). The discussions above support the notion that for gifted individuals, work is something to be tolerated and coped with. Grant (2016) uses taking out the rubbish at work as a reprieve. It provides him with an opportunity where he can recuperate and take an emotional break.

4.1.5. Attitudes about work

For some dedicated gifted individuals, work is all consuming. Many describe themselves as workaholics (Moltzen 2005; Vreys, Venderickx & Kieboom 2016) and look to work for intellectual stimulation and purpose. For example, gifted individuals in Moltzen (2005) who could be described as having realised their potential shared:

> Whenever I fill in the census form and am asked how many hours I spend a week working, I think, I'm always working. Why would I not want to work, it's so good. So I'm either writing or thinking about my writing ... when I'm alone I'm working all the time ... I'm always astonished by people who say they need time out and things like that. (Moltzen 2005, p. 170)

> I don't think of my work as my work. I guess that's why I am so motivated. How good is that. I get to do what I enjoy most in life. My issue is not getting started; it's when to stop. I guess my work is my world and my world is my work. (Moltzen 2005, p. 170)

Interestingly, the jobs that these individuals held were that of writer and singer. These seem to be outside the traditional work model and

employer-employee relationship and could provide a clue as to the kind of work settings that best suit gifted individuals. In addition, Persson (2009) found that gifted individuals experienced higher job satisfaction in leadership or entrepreneurial positions. Moltzen (2005) also found that drive was a significant theme in their study, which explained the level of achievement participants demonstrated in their chosen career. This is consistent with the idea that giftedness alone is not a predictor of success.

For others, work is a place of frustration and suffering (Kotleras 2007), an intellectual void where your personhood is denied (Kitano 1997). For the gifted can experience both extremes. On one hand, they might rather be in a car crash to avoid going to work (Scott 2012) or they might start the day with: 'Oh, I'm going to work. Oh, I just can't wait. Isn't that lucky?' (Moltzen 2005, p. 288).

Gifted individuals may seek opportunities outside of work to satisfy their intellectual needs. For example:

> Being able to do things more quickly leaves time for more outside interests. My current project is helping a Cambodian family to find their grandmother. I had to learn the refugee laws, use my contacts in the foreign service to get help, and we found her! Now we have to go through all the legal business of getting her out of Cambodia. Right now there are so many projects I want to do. I have all the stimulation and challenge that I can handle. In a year or two it will be time to move on, maybe to a whole new field. (Streznewski 1999, p. 149)

On the other hand, the pursuit of outside interests may be an inferior alternative to work for meeting their intellectual needs (Moltzen 2005). Grant (2016) who is twice-exceptional, compares work to the classroom. Just as the classroom provides opportunities for challenge, learning and growth, so too does the workplace. He has performed numerous roles in

hospitality and as a volunteer. This brings into question what it means to achieve one's potential.

For others, work is something they are resigned to. It is seen only as a means to an end or a way to make a living:

> It's a fact of being intelligent that you get frustrated with people around you. You're waiting, and everyone else is discussing and trying to figure things out – the mind wanders. In school, my associates were bright but socially deviant people who were bored by school. Well, in business it's at least ten times as boring as an educational environment! At least there the object, supposedly, was to learn. It can be disguised as learning, but here the primary factor is to be a breadwinner. (Streznewski 1999, p. 140)

Others, for example in Scott (2012) are confused that their colleagues don't seem to care about work and only do it for the paycheck: 'They have no passion just, it's just a paycheck' (Scott 2012, p. 57).

The dominant narrative in the gifted education field seems to suggest that if gifted students are supported to do well at school, this will translate across into their adult life including in the workplace. But the world of work is not the same as school. The ability to learn quickly and solve problems may not be advantageous or even identifiable. Success in the workplace may depend less on intelligence and more on social acuity or engagement in workplace politics for 'survival in organisations is a political act' (Bacharach & Lawler, cited in Ferris & Hochwarter 2011, p. 441).

4.1.6. Past experiences

It could be said more broadly that research about gifted adults is often oriented towards understanding early life conditions that will affect later achievement, as though seeking the means with which to control its development and manifestation, or to identify the key ingredients needed

for success. The studies in this review are no exception to this, as 11 of the 19 studies discussed the past experiences of their participants (Merriam 1984; Kitano 1997, 1998; Streznewski 1999; Kotleras 2007; Perrone et al. 2010; Lundstrom 2014; Grant 2016; Vos et al. 2016; Vreys, Venderickx & Kieboom 2016; Johnson 2017). This has been identified as a theme because past experiences can determine what a person brings with them to the workplace.

In Lundstrom (2014), which identified emotional issues as a reason for underachievement in gifted women, there are numerous examples of the impact that past experiences have on a person and their ability to function successfully in the workplace. Experiences of bullying and trauma (sexual, mental, and emotional) were all factors that contributed to self-loathing and social awkwardness, as well as low self-esteem and motivation to achieve (Lundstrom 2014). One participant explained their negative connection to school:

> It was because of all the bullying. I don't know what it was, but I was so different. [School] was boring. Through high school it was just horrible… it was just the way things were for the people who got picked on all the time. I did the least amount possible to get through. (Lundstrom 2014, p. 82)

These emotional issues can affect their work lives in a myriad of ways. For example, accepting jobs beneath their capability, not staying in jobs for very long, sabotaging themselves, failing to complete projects, procrastinating, and fearing failure to the point of paralysis (Lundstrom 2014). They can feel lonely, depressed, discouraged, and inadequate (Lundstrom 2014):

> I don't know what it was, but I was so different. I never had friends, ever. You know the one kid that everyone picks on, even the unpopular kids? That was me. And Mom always told me, 'You've got to stop bringing attention to yourself. If they didn't notice you, they wouldn't pick on you.' And I don't know what the hell

> it was that I ever did, but I just tried to idolize Mr. Spock and be non-emotional and everything else, it sucked. It was horrible. I still don't have friends. (Lundstrom 2014, p. 90)

The effect of these emotional hurts cannot be overstated. Lundstrom (2014) concluded that the gifted women in their study held on to past hurts and could not overcome them to change the course of their lives. It can cripple them. Furthermore, Kotleras (2007) believes that the hurt could be felt more intensely by gifted individuals due to their characteristic sensitivity.

Grant (2016) also talks about the lasting effects of being bullied at school, further demonstrating how past traumas can impact them in the workplace. He describes how his Asperger's was missed because he was an easy, compliant child but also how that made him vulnerable to bullying which ultimately led him to become hypervigilant in the workplace as an adult (Grant 2016).

On the other hand, early hardship in life and experienced adversity can provide the gifted individual with the motivation and determination to succeed (Kitano 1998; Johnson 2017):

> Well my upbringing really motivates me because my parents came from a really tough background…they came from nothing and were able to succeed and really instill that drive and passion and adventurous side of me that really nothing is holding me back besides myself. (Johnson 2017, p. 71)

> What kept me going: I always knew that my time hadn't come. I knew there was life beyond high school and that's when I was going to blossom. I had so much physical and emotional hurt in my life and it hurt me so deeply that I think it was a real sense of "I will show them." It was a real sense of "okay, yes, I'm really sick right now and not in a position to do all right now. But when my time is right, I'll show you, when I'm ready." It was almost like a vengeance thing. I remember very clearly having this real sense of anger. A real sense of anger and wanting to

> do well, but knowing I couldn't do well at that time, but that my time would come. I would read biographies of successful people. I started reading a lot of biographies. (Kitano 1998, p. 151)

The women in both Kitano (1997, 1998) studies faced various structural and institutional barriers which are reflected in this 'I will show them' mentality while also growing up with parental expectations that they will succeed. Just being labelled gifted when younger, can have this 'push' effect (Shareef 2015).

In addition, adversity can inspire individuals to make a difference, providing them with purpose in their working life: 'My purpose ultimately would be in some way to work with women, specifically my target is abused women, women that come from the same background that I have' (Johnson 2017, p. 72). Perhaps finding purpose is the way forward for those who are struggling to overcome their past hurts, in which 'helping others' is crucial.

4.1.7. Achievement

Gifted individuals are capable of much. They are quick and complex thinkers who can solve problems in unique ways. Some individuals attribute their successes to their giftedness, while others experience it as a hindrance. This seems to be dependent on their environment, as well as other factors such as past experiences, drive, and emotional wellbeing.

Of the 19 studies in the review, eight talked about achievement and six (Merriam 1984; Kitano 1997, 1998; Tirri & Koro-Ljungberg 2002; Moltzen 2005; Perrone et al. 2010) explicitly recruited participants based on achievement or eminence in their chosen field. This was not always achievement at work or in their chosen career, but also academic achievement. There were four other studies that were ambiguous but suggestive of achievement as a factor in the recruitment of participants.

For example, referrals were used to recruit participants in Johnson (2017).

Some of things that have been achieved by participants in the studies are impressive. For example, there was an artist who had their work shown internationally (Merriam 1984), an Olympic Gold medalist with a PhD (Moltzen 2005), a senator, governor, and member of the United State cabinet (Merriam 1984), a multimillion-dollar business owner, a CEO, as well as business directors, professors, provosts, heads of departments, published writers, and judges.

For the gifted, success is not necessarily about reaching the top in their workplace or field. It can be as simple as making a difference, making a positive change, improving something, or having a positive impact on others (Johnson 2017):

> I think for me service is part of that. When I was graduating I knew I wanted to work with either nonprofits or something in sports or recreation and so this is kind of the best of both worlds. I get to work with individuals with intellectual disabilities [in sports], and they are motivating. (Johnson 2017, p. 73)

This has implications for how achievement, success and eminence are defined. For example, they may not achieve acclaim or status, but they may have fostered a reputation within their workplaces and communities as the go to person: 'I'm called upon regularly to solve problems and create new systems and approaches to work processes and procedures' (Shareef 2015, p. 92). Furthermore, they seem more focused on results, than who gets credit:

> I am a result-oriented person. It's amazing what can be accomplished if it doesn't matter who gets the credit. I don't care who picks up the dozen red roses at the end of the contest because they will wilt and die anyway. (Merriam 1984, p. 50)

While gifted individuals are capable of much, they are not immune from experiencing barriers to success. In the Kitano (1997, 1998) studies gifted Latina American and Asian American women cited stereotyping, sexism, and racism as barriers to success. For them, hard work alone was not enough to ensure success, and motivation and drive were important factors in supporting achievement. This is evident in the expressed attitude of 'I'll show them' (Kitano 1998, p. 151). Similarly, Grant (2016) describes the difficulties he experiences in the workplace because of his disability and emphasises the importance of patience, respect and understanding from supervisors.

Lundstrom (2014) identified the role that emotional issues can have on achievement and (Tirri & Koro-Ljungberg 2002) talked about the importance that female Finnish scientists placed on having a supportive spouse and how that was their most important life decision with respect to their careers. Sometimes, they are the ones placing limits on themselves:

> My supervisor told me that the only person stopping me from accomplishing anything was myself. To me that was almost like writing a blank check for me because I started doing things whether people said no or not. And, I found that almost all the barriers that stop people aren't really there. Sometimes I get bogged down maybe and I believe in the barriers around me. Those are usually the number of hours in the day and the problems of making choices. I'm not good at saying no. I believe there are forces directing me and in paying attention to those forces I go in too many directions. (Merriam 1984, p. 45)

4.2. The Work

Two themes were identified in relation to the work itself, and they were (4.2.1) the job and (4.2.2) the workplace.

4.2.1. The job

Gifted individuals were found in all kinds of jobs, occupations, and types of employment, with varying degrees of job satisfaction reported. Some of the jobs identified in the studies were hospitality worker, teacher, lawyer, manager, radio broadcaster, photographer, writer, engineer, health care worker, counsellor, educator, advocate, professor, realtor, journalist, physical therapist, office administrator, scientist, physicist, mathematician, researcher, musician, artist, public servant, entrepreneur, academic, nurse, psychologist, retail salesman, manual laborer, prison warden and student. As can be seen, the work they do is wide ranging in type, and in status. Some even worked in unpaid or volunteer positions while others were retired or worked for themselves.

One thing that is clear, is that gifted individuals like to use their brains. However, the workplace is not always a place where they can do this. As one participant in Persson (2009, p. 16) shared: 'I am only partly engaged in my work situation, more detached. It has been long since I used my brain at work'. This does not necessarily mean that they underperform in relation to the job itself. Rather, they underperform in relation to their own capability (Vreys, Venderickx & Kieboom 2016): 'I guess this is funny to me – I've figured out how to do as little as possible while appearing like I'm a stellar, hard-working employee' (Shareef 2015, p. 96).

Even an Executive Director, ostensibly an exemplar of career success, described their job tasks as not 'terribly difficult' (Shareef 2015, p. 98). It is not enough to decree that a person has 'achieved their potential' by

examining their job title or occupation alone. Some gifted individuals accept that they will be underutilized and unchallenged by their work and seek to satisfy their need for stimulation outside of that: 'I'm OK with my work. Intellectual stimulation I find outside of work' (Persson 2009, p. 17).

It seems there can be a mismatch between the gifted individual and their job, which relates to person-job fit and underemployment. Lundstrom (2014) talked about how this can result in low self-esteem. As individuals who like to use their brain, gifted workers seek out stimulating and challenging projects and are energised by ideas, learning, and initiating or improving things:

> In my first job I did documentation all day; I was worse than the low-level clerks who were just out of high school. Even now I find myself asking to be given more, wanting them to challenge me. This job does not give me the opportunity to see how far I can go on my own, to jump in over my head and dig myself out. That is what I miss. In music you are pushed to go beyond yourself all the time. I haven't been pushed that way since I entered the working world. (Streznewski 1999, p. 138)

Furthermore, Vreys, Venderickx and Kieboom (2016) distinguishes the energy brought to a project at the initial stage versus the maintenance stage. This is clearly illustrated in the following example from Streznewski (1999, p. 138):

> Colin convinced me to take computer courses with him. He pushed me into taking a job with a geographer at his university. There was one computer and no one else knew much about it, so I had to read the manuals and be in charge of things. My biggest accomplishment was writing a program for mapping using an electrostatic printer. I went to the library and did research on software. In a short time I had a program that did contour maps without making mistakes! At the point at which I left to have a baby, it was beginning to get boring. I was doing more of just processing data rather than writing programs. I hated that; I had no

> time to improve programs. My pregnancy was a good excuse to leave a job that was beginning to bore me. Besides, I was beginning to get resentment from one or two people because I knew too much.

Once the work becomes routine, gifted employees may become bored and indifferent and may, as a result, seek other employment opportunities. Indeed, gifted individuals may have portfolio careers where they change jobs numerous times (Scott 2012). Others may seek to establish their own business and means for income:

> There is no way I'm going back to work for someone else. It's just not going to happen. I'm a lousy employee; I know I'm a lousy employee in the sense that I'm not skilled at the games. I just want to do what I do and be left alone. At least self-employed you can always take on clients or not take on clients. But I don't see myself going back into big industry or anything, I see myself doing something small for myself again. (Scott 2012, p. 77)

There is a strong need for autonomy as well as challenge in the work that gifted individuals undertake (Nauta, Ronner & Brasseur 2012; Shareef 2015; Vos et al. 2016). In a study about career choices and work satisfaction by Persson (2009), it was found that gifted individuals were more satisfied in their job if they have autonomy and can influence decisions. It makes sense then that the managers, entrepreneurs, and business owners were found to be more satisfied at work.

The gifted Asian American women in Kitano (1997) were also found to be highly satisfied with their work. They were reported to like identifying their own problems, developing their own solutions, developing their skills, and working with bright colleagues, which is an apt description of the kind of work environment that has been suggested as ideal for gifted individuals.

4.2.2. The workplace

Workplaces, as they exist within organisations, are complex systems with their own culture, social norms, and rules. They are a place where people and work intersect, and like schools, they too are an institution. In their preoccupation with supporting gifted students to achieve their potential, gifted educators have so far failed to examine the environments in which the expected career success is to occur, or the implicit assumption that workplaces are a place where it is indeed even possible for a person to flourish. The reality is that for gifted individuals, the workplace can be limiting:

> It is especially true in corporate structures where there are levels and approval processes. It is very hard to grow at your own pace in that environment. The game is the same. You are constrained by people who are not as smart as you are. (Streznewski 1999, p. 139)

Of the codes which related to the workplace theme, 'obstacles to success' was applied the most to the included studies (Kitano 1997, 1998; Vreys, Venderickx & Kieboom 2016; Grooff 2017). Some individuals are not prepared for this when they transition from a formal education to the workplace:

> In my first job, I wasn't prepared for what companies were really like. All the sitting around doing nothing, the fact that it was all so easy! It was a letdown, and then I was part of a 500-person layoff. I spent eighteen months in a boring temporary job, and then found a company where I was in charge of the new product development group. The challenge and responsibility were just right, but I quit because they were taken over by a large corporation. In another position I had a supervisory title, which I liked. But I would tell people how to do their jobs better, so when layoffs came, I was among the first. (Streznewski 1999, p. 142)

Not being prepared for the workplace is something that may not be specific to gifted individuals. In fact, organisational behavioural

researchers Mats Alvesson and Andre Spicer found that organisations actually rewarded people who did not use their brains at work (Spicer 2016). While their research was not about gifted individuals specifically, it did start with an assumption that smart people would get ahead. Instead, they found the opposite to be true and that organisations, while seeking out the best and brightest recruits, encouraged a kind of collective stupidity (Spicer 2016). Perhaps the effects of these organisational forces are even more stark for the gifted employee whose intellect demands stimulation, but who may instead spend their days in meetings, filling out forms or keeping clients happy (Spicer 2016).

Afterall, not everyone can be paid to do what they love, what interests them or even what satisfies them. Just as the Ancient Greek philosopher Aristotle identified, satisfaction and paid work are at odds (de Botton 2009). Thus is the nature of paid employment. As one gifted worker said: 'I haven't found a way to make money at what I love. I earn a living and do what I love in the time left over' (Streznewski 1999, p. 148). Gifted individuals who try to pursue their interests or extend themselves in their working lives may be limited by organisational 'forces' such as hierarchies, processes, and power dynamics. As one participant in Persson (2009, p. 16) said, 'bureaucracy can destroy any sunny day'.

They may seek to change their work circumstances by applying for a promotion, changing jobs, or switching careers entirely. Even though they may be very capable of learning something new (a defining quality of high intelligence) they may be prevented from having the opportunity to exercise it: 'I decided to pursue my interest in strategic planning, but the interviewers said, 'You've never had a job in it'' (Streznewski 1999, p. 127). Also:

> …I was operating at a higher level than most of the senior people. They refused to promote me because I did not have the requisite years of experience. I started answering ads again after two years there. (Streznewski 1999, p. 127)

For others, the barriers to advancement lie within themselves. In Kitano (1997, p. 27), one gifted Asian American woman explains how they were 'really afraid to assume any kind of responsibility because I wasn't sure whether or not I would be able to fulfill what was expected of me'.

In the management field it is generally accepted that past performance is the best predictor of future performance, and therefore job candidates should be recruited on the basis of evidence from their previous work experiences. This approach, however, does not take into consideration (for example) a person's ability to learn and to grasp concepts quickly, the breadth of their acquired knowledge, or their ability to identify and solve problems. It is these areas in which gifted workers are likely to excel.

Likewise, gifted individuals may not be recognised or valued for their work. In an interview in Scott (2012), a co-researcher and their spouse explained how in organisational restructures, it seems it is always the intelligent people who are the first to go. One participant in Scott (2012), who was the only employee that survived a merger from a few years

prior, experienced difficulties gaining a promotion even though they were seeking advancement opportunities:

> If I leave here I want to leave for some kind of advancement. I keep telling people here certainly that I want to be promoted into a supervisor position and I've been saying that since before we were acquired and nobody in the supervisory chain actually believed me. (Scott 2012, p. 78)

Workplace culture, which permeates throughout organisations, can also have an impact. For example, self-researcher Kotleras (2007) recounted his experiences with mobbing which he believed had become normalised through the culture of his workplace. He found that the behaviour was so entrenched in the organisation that he believed it had been happening to various individuals over a span of 30 years. He explained how being the victim of mobbing in the workplace can result in Post-Traumatic Stress Disorder (PTSD) and how gifted individuals, due to their inherent sensitivity and awareness, may suffer the effects of mobbing more acutely (Kotleras 2007).

Workplace culture can have an effect in other ways. For example, a second-generation Chinese American gifted woman shared:

> But what I have discovered in working in what I call the mainstream setting, and that is with traditional leaders in the business and political communities, unless you are aggressive, unless you are very vociferous in your views, you get lost in the masses of people. Because you don't stand out. As an Asian, that kind of individualism, that stress on individual achievement or promotion of self, of pushing yourself to the forefront above and beyond other people whom you work with, it's hard for me to do. Very hard and it runs against the grain of my personality. But I've had to. Otherwise you get stepped on. And run over. (Kitano 1997, p. 27)

On the other hand, taking a more assertive approach can be problematic. As a third-generation Japanese American woman explained:

> I know a lot of women who can go into meetings and scream back at these guys when they're screaming at you. But I can't. The majority of women I know can't do that. It's not only because they're unable to. It's because they're unwilling to. And the women who play that, they're not respected any more because they do, by the men. So it's like they can't win for losing. (Kitano 1997, p. 27)

The above quotes highlight how difficult it can be for Asian American gifted women specifically, and perhaps the additional barriers that they must overcome to be heard in the workplace. Here, aggression is interpreted as ineffectual and unpalatable in women. It further demonstrates how giftedness should not be considered in isolation of the other components that make up the whole person, and which also impact their experiences. Rather, that they intersect.

Another example of this was supplied by Grant (2016, p. 73), who also has a disability:

> I liked socializing outside of work when I had rare opportunities to do that, but I did not talk much at work because the workplace was loud. In fact, I felt bombarded in that somewhat typical food service environment. A radio was on in the kitchen, and banging dishes and dishwasher noise were constant in the dish area. Sometimes I was distracted by the radio, unable to tune it out. Songs might evoke a happy memory or inspire a thought I wanted to save until I could write it down. My head was always busy.

This describes the effect that hypersensitivity to sensory information can have on him in the workplace. For him, just being in the workplace is difficult simply because of the noise (which causes him pain) and the busyness.

Contrast these experiences with that of a 48-year-old gifted Dutch man:

> (Employer's company name) has a very open and warm climate. Everyone is appreciated. The organizational climate of clients can vary greatly. One company is a fast-growing multinational. People work more reactively than proactively. I experience both companies as an agreeable environment. But I have also worked for a client – that was less agreeable for me. People there worked in a kind of detached way. (Grooff 2017, p. 25)

For him, the environment was less agreeable because people were detached to the work. The impact of others in the workplace will be discussed in the next section.

4.3. Others

The final three themes identified in the study were (4.3.1) perception of the worker by others, (4.3.2) interactions with others and (4.3.3) social skills and abilities.

4.3.1. Perception of the worker by others

Gifted adults can be highly regarded in the workplace and in their respective field of work. For some, they are identified as gifted based on their high level of achievement or even eminence within their chosen domain. It therefore follows that they may be described by their colleagues as someone who is brilliant or outstanding, who produces high quality work and contributes much more than others to their field (Merriam 1984).

Due to their quick thinking and ability to connect-the-dots, gifted individuals may appear to possess a kind of uncanny prescience. They seem to be able to envisage problems that might arise ahead of time, well before their colleagues are able to. Instead of being treated as helpful,

this can be interpreted by others as being difficult or obstructive. As one participant in Vreys, Venderickx and Kieboom (2016, p. 56) shared:

> My problem is that too many thoughts are spinning around in my head when I try to explain my objections. My colleagues then blame me for seeing ghosts and for always running ahead of the facts. I only want to help the team, but my advices are usually ignored and the predicted problems become reality. It feels so frustrating that nobody ever seems to listen to me and see me as a threat. I often just give up and withdraw myself mentally from the team.

That gifted individuals are perceived as threatening, or even intimidating, was something that came up in several of the included studies (Streznewski 1999; Scott 2012; Vreys, Venderickx & Kieboom 2016). In the above example, the participant coped with this by withdrawing from the team. Other gifted individuals may insist that they are right at the risk of being deemed stubborn, annoying, demanding, or difficult (Vos et al. 2016). This makes sense given their inbuilt sense of justice, desire for truth, idealism, and pursuit of perfection.

Expected to know everything while disparagingly referred to as a know-it-all who should be put in their place, they may be ascribed as self-important, or someone who thinks they are superior to others (whether the gifted individual believes they are or not). Inside however, their reality may be completely different. As one participant in Grooff (2017, p. 30) explained: 'people may have the impression I am very confident, but in fact I am a sensitive little boy'.

If they are identified as capable, there may be an expectation that they can do anything without support or guidance. However, there are times where they may need this. They may feel pressure to be the generator of ideas and to solve others' problems. At the same time as they are celebrated, respected, and revered, they may be resented and criticized for their weaknesses.

> I often am frustrated that instead of being able to live in my strengths to help my organization accelerate, I am constantly being asked to try to "fix" my weaknesses. Add that to the complexities of being female in a male dominated industry and juggling family responsibilities, and I am reluctantly beginning to acknowledge that I will not crack the ceiling. I don't want to be CEO, but I want to be part of the core cabinet of consultants that the CEO trusts and turns to fix problems, redefine the industry and blaze a new trail, etc. I completely "get" the research on gifted female adults and why they "disappear" or "drop out". (Shareef 2015, p. 100)

As is hinted in the above quote, gifted individuals are not immune from the influences and constraints that gender can have in the workplace. Nor does it free a person from the effects of race, disability, class, culture, family, sexual orientation, or any other aspect of their identity has on their success. That is, being gifted does not transcend these to assure success.

To accept giftedness as the best predictor of success is to ignore the multifaceted nature of human beings and their position in society. Modern feminists have understood through the inclusion of intersectionality in their discourse. For them, the experience of being woman cannot be separated from their experience of, for example, being a person of colour, or disabled. So too, the gifted experience should not be considered in isolation.

Co-workers of gifted individuals may feel like they are trying to show them up or look bad when instead they are trying to be helpful. As one participant in Shareef (2015, p. 102) shared:

> I often feel like the odd man out, and I'm sometimes subject to remarks along the lines of, "Well, you intimidate me," or "You make me feel stupid" (by knowing a word or a text or a reference that should generally be known by someone in my field). I've also been told, "You expect people to be as smart as you are," a statement I usually regard with deep skepticism.

That the participant can articulate these experiences, demonstrates an awareness of the kind of responses that may be elicited from others in the workplace when displaying their intellect and true self. This is evident in the way that gifted individuals feel they need to mask or hide themselves. Furthermore, the positioning of 'you' in such remarks as these, places the blame (and therefore the responsibility) for the uncomfortableness experienced by others, back onto the gifted person as though they are the problem and therefore the one who needs to change. So not only do gifted individuals have to regulate their own intensity (to find an equilibrium between burnout and bore-out) and carry out their own emotion work, but they are also implicitly tasked with managing the emotional reactions of others towards them.

Described as spirited but also introverted and thoughtful, gifted individuals are thought to possess a different energy as compared to others (Grooff 2017). While considered anti-social, they desire and value social connection and are empathetic and caring. Consistent with their feeling different, they may have difficulty functioning in a team and connecting with others. They may think they fit in when really, they do not (Grooff 2017). As the manager of a gifted employee in Grooff (2017, p. 32) offered:

> Yes, I think collaborating in a team is difficult for him. I think he functions as part of the organization, but at the same time he is quite in itself.

It is as though gifted individuals exist amidst a myriad of anomalies, reflecting their complex way of being. They can be hard for others to comprehend and understand. Grant (2016) felt that people cared about him but were more comfortable talking to him about his Asperger Syndrome (AS) than his obsessive compulsive disorder (OCD), while his

giftedness was never discussed. Perhaps this is because people are now more familiar with AS and its characteristics than other ways of being.

4.3.2. Interactions with others

Of the 19 studies included in the review, 15 talked about interactions that gifted workers have had with their co-workers (Merriam 1984; Kitano 1997, 1998; Streznewski 1999; Kotleras 2007; Perrone et al. 2010; Nauta, Ronner & Brasseur 2012; Scott 2012; van der Waal, Nauta & Lindhout 2013; Shareef 2015; Grant 2016; Vos et al. 2016; Vreys, Venderickx & Kieboom 2016; Grooff 2017; Johnson 2017). This reflects the fundamental and inescapable role that social interaction has in the workplace, where the workplace represents a kind of social milieu. For one participant in Johnson (2017, p. 88) the people they work with are like family:

> I think one thing I really love about this office, and I think I kind of mentioned on how involved it's become in my life is that it really is a close knit group here that we work with. It's not only just our staff members but our volunteers. If you look at our organization we have people that have been volunteering every single year at the same event…they really are people I call friends. I always look at how that support system is also our volunteer base, it's incredible. They're very passionate people. It really becomes a family, your staff and your volunteers.

For some, connecting with others in the workplace is more difficult:

> As for really being close to people (at work), that was difficult because there was a lot of people talking about stuff that I didn't have interest in. There was never any higher conversation. So I always did the best I could to be able to participate…And I don't think; I knew how to play the game at that point, I don't think I was ever an outsider, but I did suffer from not having any…I did suffer because people didn't talk about anything that interested me. (Scott 2012, p. 51)

A study by Perrone et al. (2010) corroborates this, wherein 80% of gifted individuals found their working relationships to be worse than they

expected 10 years out from high school graduation. What they need to function well in workplaces is to be intellectually stimulated, while being accepted and affirmed. Feeling psychologically safe (Grooff 2017) and secure is important to them.

> So the team I am in now slows it down, because I find a piece of fearfulness and too little security to sometimes bring up an idea you have. (Grooff 2017, p. 28)

In fact, 'trust' and 'perspective' were both sub-themes that were only mentioned by the gifted participants in a study about the positive aspects of work conflict by Vos et al. (2016). Interestingly the other participants, who were categorised as either feeling gifted or non-gifted, did not mention these at all. Furthermore, trust was mentioned by three studies in the review (Shareef 2015; Vos et al. 2016; Grooff 2017).

Seven studies (Streznewski 1999; Nauta, Ronner & Brasseur 2012; van der Waal, Nauta & Lindhout 2013; Shareef 2015; Grant 2016; Vos et al. 2016; Grooff 2017) talked about supervisors and managers, and this was heavily coded in general. It was identified that gifted individuals would like supervisors that they can trust, who are transparent, open, honest, fair, people-oriented and motivating (Nauta, Ronner & Brasseur 2012). They should be a good sounding board and facilitator who provides autonomy (Nauta, Ronner & Brasseur 2012). This is consistent with the identified values of participants in Johnson (2017). That is, helping others, friendliness, respect, kindness, and inclusivity. Mentors were also found to be influential in the working lives of some gifted individuals (Merriam 1984).

There were three studies that talked about conflict in the workplace (van der Waal, Nauta & Lindhout 2013; Vos et al. 2016; Vreys, Venderickx & Kieboom 2016). This did not include experiences of workplace mobbing (or bullying) which were coded separately. The most interesting finding

was reported in van der Waal, Nauta and Lindhout (2013), which focused specifically on the labour disputes of gifted employees.

All the participants included in the van der Waal, Nauta and Lindhout (2013) study had experienced conflict in the workplace, and they all reported that the conflict began as a cold conflict. That is, the conflicts were emotionless and began as a result of some insight the gifted employee had about the work that they tried to communicate with their supervisor. The conflicts built up slowly and, in all cases were with a direct supervisor.

> I notice something and say something about that. In my view I tell them in a gentle way first. Then after that, I tell them maybe in a way that is too direct and which creates a conflict. (van der Waal, Nauta & Lindhout 2013, p. 169)

For others, communicating potential problems might go more like this:

> I would be told to do something and I would say 'That's not really a great idea. Let's do this other thing instead.' And you'd get the 'Because I'm the manager, that's why.' Invariably it would all go south and my boss would show up in my office with this long face 'Okay, go ahead and say it, say I told you so.' I was like 'Well, I did tell you so.' (Scott 2012, p. 79)

In this case, a conflict does not appear to eventuate however the gifted individual did express that they felt frustrated. The strong sense of justice felt by gifted individuals in combination with their emotional intensity, idealism, insight, and conviction stemming from their sheer intellect, may exacerbate the disconnect experienced. As another participant shared, 'The feeling of injustice and the way things were done are things that are very important to me and to which I react very strongly' (van der Waal, Nauta & Lindhout 2013, p. 168).

It can be important to gifted individuals that they 'get it right' and this might mean prioritising their clients over their colleagues, or accuracy over time. As one participant in Scott (2012, p. 60) explained:

> I had an accountant that I called in twice a year and he would be so upset with me because he's saying, "You spent how many hours looking for $0.04?" …But it's supposed to balance and so if it doesn't, that means something's wrong and I can't tolerate something was wrong. So it always balanced. I liked that. I liked the cleanliness of those numbers.

This kind of behaviour may be befuddling to others if they do not understand, or experience themselves, the need to make things right. In a culture that accepts medical diagnoses based on behaviour, it is easy to see how this might be pathologised and interpreted in any number of ways. For example, restricted and repetitive behaviour is associated with ASD, hyperfocus with ADHD, and orderliness with OCD. This does not mean that gifted individuals are these things, although they can co-occur with giftedness. Rather, this is a part of what it means to be gifted.

The effect that an imputation of disability has on gifted individuals in the workplace, has not yet been studied. Kotleras (2007) however, does describe how sexual orientation was imputed and weaponised by those involved in his experience of workplace mobbing. The effect this had on him was very damaging. Furthermore, most participants in Scott (2012) described themselves as introverts and felt that this was sometimes pathologised. It is no wonder that they feel the need to hide their true selves.

4.3.3. Social skills and abilities

Gifted individuals recognise the importance of social skills and the role they play in the workplace (Grooff 2017), and this is evidenced by the amount of coding that relates to 'Others' and the following statement provided by a participant in Scott (2012, p. 55):

> Being skilled and gifted within private industry working on technology was valued. Well, anytime you're in an environment that is driven by personality and social networking, intelligence is a secondary concern to your emotional skills, your social skills, so I can't say there is or isn't a hard set rule. In general, giftedness is best when you're dealing with well-defined, concrete, quantitative fields. Intelligence seems to be a stumbling block in those fields and career paths that are socially layered. And I think that, while people will argue that even a tech company is social, that may be true, but again, working on computers I don't have to be charming I have to please the client.

In the above quote, the participant identifies not only the value of social skills but the additional hurdle that intelligence imposes on social interactions. Gifted individuals' experience of the world is qualitatively different and because of this, they feel different (Lundstrom 2014). This can make social interactions difficult or awkward for them. This should not always be interpreted as autism spectrum disorder (ASD) even though it is possible to be gifted *and* autistic. Instead, the social difficulty arises because of the unique intellectual and emotional complexities that come with being gifted.

Lundstrom (2014) had 12 participants in their study and 11 of those cited social awkwardness as a reason for underachievement. This encompassed both the workplace and other environs. Their feeling different, as attributable to their high IQ, was used to explain their frequent job changes and unemployment. Participants identified fear as a factor that

holds them back, both in seeking employment and in finding employment but then hating it.

Being socially awkward was linked to their inability to perform in job interviews and in social situations (Lundstrom 2014) including networking. Interestingly, both communication and networking have been shown to be important activities in the success and effectiveness of managers in organisations (Luthan et al., cited in Robbins et al. 2014, p. 7) and are arguably essential to advancement in workplaces and traditional notions of success. One participant in Shareef (2015, p. 101) described their feelings about social situations:

> People do not always understand an extreme introverted personality which leads to issues with small talk and happy hours. When others couldn't wait for that—I would find excuses not to go (it was added stress for me) and this was perceived as anti-social behavior by those who did not directly work with me. I also prefer to work alone or with my small group of peers—having to constantly restate and explain innovative/out there solutions and ideas wears on a person.

It should be noted that 11 of the 12 participants in the Lundstrom (2014) study had experienced childhood trauma and this could explain some of their difficulties, including their rejection of authority. That said, rejection of authority is something that has been associated with giftedness in and of itself (Heylighen 2012).

The 'feeling different' must be so strong and palpable to result in underperformance and social difficulties. Some gifted individuals devise ways to cope, including withdrawing (Kotleras 2007; Grant 2016; Vreys, Venderickx & Kieboom 2016) or engaging in behaviours that will develop their social skills such as reframing, persuading, arguing, experimenting with communication, influencing, being honest, informing (supervisors), asking permission, and shaping their own environment (Grooff 2017). These are not basic social skills. Perhaps in coping with their differentness

and the social challenges that come from that, gifted individuals need to develop social and communication skills of a higher order. Certainly (as previously mentioned), modulating your language in real time is not an easy task (Shareef 2015).

Kitano (1997) identified that mentors were beneficial, however Shareef (2015) identified that a higher level of social support did not increase the correlation between self-concept and organisational fit. Furthermore, the participants in both Kitano studies (1997, 1998) which examined Gifted Asian American women and Gifted Latina women respectively, discussed additional barriers at play. This included ethnic stereotyping, glass ceilings, discrimination, and institutional barriers. Giftedness alone provides no assurance of success.

Similarly, Grant (2016) talked about the additional challenges he faced because of his AS. Interestingly, he identifies as being gifted with AS (and OCD), but he only attributes his need for social space to his AS and not to both. He found that volunteering helped with his confidence.

Even though gifted individuals have social challenges, they care deeply about others (Piechowski & Colangelo 1984). They may choose careers that prioritise people, help others and make a difference such as those in Johnson (2017). They may value social connection but only if it is meaningful, as opposed to engaging in small talk (Shareef 2015). Either way, their social skills are of utmost importance if they are to successfully innovate and bring others along with them in the workplace (Grooff 2017).

CHAPTER 5: DISCUSSIONS AND CONCLUSIONS

The findings from this study were grouped into three main groups: The Individual, The Work, and Others. The main outcomes presented in the results for The Individual were that gifted employees are highly intelligent and capable. They can be creative and innovative problem solvers, who are prone to boredom but also burnout because of their quickness to master, and their drive to perfect. Sometimes they feel like they need to hide their authentic selves (and their abilities) for fear of rejection or scorn. They are susceptible to emotional distress if their work environment does not match their needs. For those who find suitable work, it can become all-consuming and a source of satisfaction, especially if their work has meaning.

With respect to The Work, gifted individuals can be found in a wide range of jobs. They like to use their skills and work autonomously, or within teams with equally bright colleagues. However, the workplace can be limiting and may inhibit gifted individuals from using their intellect. One of the findings in Others was that social interactions in the workplace can be a challenge for the gifted employee.

Gifted adults are highly intelligent individuals who are different in the way they think, feel, and live in the world (Jacobsen 1999). It is as though they experience the human condition more intensely, living within extremes emotionally and intellectually (Silverman 1998; Jacobsen 1999). As gifted expert Linda Silverman once said, anyone who has been told they are 'too much' of anything is probably gifted (Silverman 2016). It is their sensitivity that enables them to pick up on what is happening in their surroundings, to make sense of, and to understand things. These are the defining characteristics of high intelligence, yet it is these qualities that can bring a kind of existential pain.

Gifted individuals can manipulate large amounts of information to provide solutions, make links between things, and learn. This excites them. Their whole being is defined by a richness and complexity, reflecting the interrelatedness and inseparability of their intellectual life from their emotional life, their giftedness from their self. It makes sense then, that all 19 studies included in this review talked about the gifted self or identity and this was identified as being quite central to their experiences in the workplace. Here, gifted adults feel they need to hide their true selves, resulting in emotional and moral turmoil. Not only do they hide the full extent of their intellectual capabilities but also their emotionality for fear of rebuff, rebuke, ridicule, or rejection. To hear that 'you're weird' (Scott 2012, p. 51) is a deeply personal affront. Afterall, feeling connected and understood is a basic human need (Bregman 2020). As a result, gifted individuals spend time and energy trying to navigate the 'norm' while attempting to both restrain and use their brains.

'Reaching their potential' is commonly used in the gifted children field of research narrative, with much work being dedicated towards how best to achieve this. It rightly acknowledges the capabilities of gifted individuals but fails to consider what this looks like in adulthood where a large portion of time is spent working, and when potential is going to be realised (if it ever is). It makes little sense then that much of the research on giftedness relates to children, while there is still very little about giftedness in adults. This represents a significant gap in the research, where future research efforts could be directed.

Gifted children are 'encouraged to pursue high-status, prestigious careers' (Willard-Holt 2008, p. 313) but whether they do is another matter. Not all gifted individuals achieve this, but perhaps it is not in their best interests. The data presented in this study suggests that gifted individuals are less concerned with status and prestige and more concerned with making a

difference in the lives of others, finding meaning in their work, and caring about the work they do:

> Banking is fun because it is something that I don't know about. I like to be the one taught. But to be in the world of finance is not something I care about. I don't care if hospital XYZ gets a million-dollar line of credit. I think when you don't really care about something you may give it a good effort, but not 100%. I gave music my best shot; I'd like to be devoted to something again. (Streznewski 1999, p. 138)

> What drives me is Jesus, and making sure that others know about him– my job is to bring as many people to him as I can. That's what drives me is just knowing that's my purpose and teaching about Christ. (Johnson 2017, p. 74)

The question is whether educators of the gifted, on reflection, would be satisfied that their past students were living up to their potential if they worked as, for example, a teacher, minister, artist, nurse, or prison warden. Indeed, teaching as a profession is notoriously undervalued and the attitude is that in pursuing a career in teaching, students would be wasting their gifts (Kerr, cited in Willard-Holt 2008, p. 313). Here, teaching is considered a lesser profession. Yet the literature suggests that the gifted individuals in those roles were quite satisfied with their work because it had meaning, and it gave them a sense of purpose.

It follows then, that it should only ever be up to the individual themselves to determine if they have been successful or not; if they have used their abilities and reached their potential or not. It may be that they never feel like they have reached a pinnacle as aspirations shift with continued growth. Others may not be able to overcome the cultural and structural barriers they face or recover from past traumas that have irrevocably changed them. Nevertheless, it should not be determined by the social and economic value imposed on their work by others.

While past experiences are not directly related to experiences in the workplace, they can certainly have a profound effect on them, and this is evidenced by the number of times that individuals talked about their past in the included studies (11 out of 19). This acknowledges how inseparable a person is from their past, and the complexity of what they bring with them into the workplace. For example, a person who was bullied at school may lack confidence in social interactions as an adult and become socially awkward.

Moreover, the unique social and emotional need of gifted individuals is recognised within the gifted education field. In 1981 James T. Webb founded SENG (Supporting Emotional Needs of the Gifted) for this reason after one of his clients committed suicide (Supporting Emotional Needs of the Gifted 2022). It seems that the gifted population is particularly vulnerable to this because the rate of suicide in the gifted population has been estimated to be higher than that of the general population.

This is further supported by the data presented in this review. Gifted adults can become frustrated and bored at work causing them emotional distress. Mental health and emotional wellbeing were together identified as a theme from the data. This theme also encompassed the coping strategies adopted by gifted individuals in the workplace. One of the conclusions made from the data included in this review was that for the gifted, work is something to be coped with. The act of coping with something would inevitably require effort in the form of internal self-regulation and emotion work, which could be interpreted as an additional burden carried by gifted individuals.

Indeed, the working lives of gifted adults could be interpreted as a series of paradoxes, each requiring thought and effort from the individual if any kind of equilibrium is to be maintained. For example, hiding versus revealing, boredom versus burnout, emotional expression versus

emotional repression and managing the emotions of others, such as that of reverence versus resentment. It can be the difference between loving work or losing the will to live because of it.

There also appears to be some difficulty in using giftedness to explain personal struggles. For example, Kotleras (2007) had a hard time reconciling his giftedness with his mobbing experiences, even though he knew that it had to be a factor. For the word 'gifted' implies an endowment that is positive and desirable. It is therefore understandable that individuals may not attribute their troubles to their giftedness. If this is the case, then they may seek out a medical explanation for their differences. This could put them at risk for misdiagnosis as there is still little awareness about giftedness and its manifestations in the health field. This could explain why the rate of misdiagnosis is indeed higher in the gifted adult population.

Similarly, it appears that giftedness is currently absent from the discourse about workplace diversity as though the variation in human intelligence is of little consequence to work performance, at least when it is at the upper end. Moreover, that the effect of intellectual difference is generally accepted at lower-than-average levels, but not at higher-than-average levels of intelligence. This could be because of the myth that gifted individuals will excel regardless.

The gifted identity could be described as invisible, unlike queer and disabled identities (particularly those associated with the neurodiversity movement) for which there is a growing awareness. Even gifted education as a field is in its infancy in Australia (Luburic & Jolly 2018). With a growing awareness of the neurodiversity movement in the community, and a corresponding lack of awareness of giftedness it makes sense that gifted individuals may be misdiagnosed or not feel understood or accepted.

On this note, it is interesting to consider how the social definition and interpretation of individual differences might differ from psychological or medical definitions (and the interaction between the two). This is certainly something that could be explored in future research as social attitudes have the potential to influence what is defined as acceptable, normal, or typical. Less culturally desirable characteristics found in the gifted population such as sensitivity, nonconformity, and emotionality are at risk of being pathologised, at least according to social definitions. Sensory sensitivity for example, is now strongly associated with the lived experience of autistic individuals and any discussion about autism usually involves some mention of this.

However, it would be truly reductionist to categorise giftedness as a pathology and utterly absurd to diagnose someone with high intelligence. Rather, giftedness should be accepted for all its complexities; for what it gives as well as the challenges it presents. This sounds much like what queer and disability advocates seek to achieve for their members. Perpetuation of the belief that high intelligence is a 'gift' assuring success can only be harmful. The risk being, that gifted individuals will forever feel like they have failed to live up to their potential.

This demonstrates how problematic the current narrative is around giftedness. Gifted educators who talk about helping gifted students to achieve their potential fail to consider what happens to them when they enter the workplace. Yet there is a sense of resignation and disillusionment in the voices of parents whose gifted kids are starting out, as if they know what lies ahead for their children:

> I've seen some of my Mensa friends talk to their kids because they'll come home, like they just got their job at Pizza Hut or whatever and the kids will come home

> and say 'It doesn't even make sense, why is he telling me to do this' and the parents are like 'This is going to be the rest of your life'. (Scott 2012, p. 48)

If the belief is that intelligence is something valuable and desirable, that should be identified and nurtured so that it can be used for the betterment of humankind and for the individuals who themselves possess it, then it should be acknowledged and supported in much the same way as other groups' needs. Perhaps the answer then lies in the diversity field, or as it relates specifically to this body of research, the workplace diversity and management fields.

This research has provided some insight into the needs of gifted workers. For example, gifted workers have a need for autonomy, clear objectives, psychological safety, meaningful work, recognition, collaboration with like peers and the freedom to come up with new ideas, make improvements and solve problems. These fit with what the management field has identified through Herzberg's Two Factor Theory as motivation factors contributing to job satisfaction, which is of interest because of its positive correlation to productivity (Robbins et al. 2014). It also echoes the three psychological needs identified in the Self-Determination Theory (SDT), which are autonomy, competence, and relatedness (Ryan & Deci 2017). Perhaps the needs of the gifted worker are not that different to the average worker, but the need is more urgent, more necessary, or simply greater.

The above has implications for the workplace diversity field. While the benefit of embracing and fostering diversity in workplaces is now widely accepted, it appears to be limited and even constrained by the construction of diversity or inclusion groups. Even within these groups, the variation in needs can be vast and sometimes support is only accessible with identification, proof, or disclosure. Yet the need can still be there. Case in point, most gifted adults have never been formally

identified (Jacobsen 1999). Nor are they comfortable in adopting a gifted identity. For the tendency may be to instead interpret any kind of difference or difficulty from a deficit point of view. That some diversity groups are viewed as a deficit is beyond the scope of this discussion however it does reflect how entrenched and internalised some attitudes (for example, ableism) are, in society.

Perhaps the alternative is to instead begin by accepting and recognising the myriad ways of being human. Remembering our humanity. Identifying all the ways that people can be. Understanding that individuals have different needs and will respond differently to their environments. Realising that human beings are multifaceted and unique. That they are product of the complex interaction between their genetic makeup, their environment, their inner lives, and their life experiences. Ultimately, this is about understanding.

Gifted individuals as a group (or any other group) should still be identified and researched. As this study has shown, gifted individuals do feel different (Silverman 1998; Jacobsen 1999). It is worthwhile examining this. However, in saying that, it does not mean that only gifted individuals can feel this way. Inferences should not be made about the experiences of non-gifted individuals in reporting the experiences of the gifted. For example, it should not be inferred that sensitivity does not exist in the general population because it has been said that gifted individuals are sensitive. Or, that an individual must be gifted because they are sensitive.

It should be noted that characteristics and behaviours need to be contextualised and considered as part of a whole. To apply deductive reasoning as above, is again reductive. Just as feminists recognise the effect that multiple identities have on their experiences as women collectively (intersectionality), other diversity groups must too

acknowledge a blurring of boundaries. It is after all, impossible to organise all of humankind into neat, discrete categories.

Furthermore, for something to be 'different' it needs to have something from which to be different from. The presumption being, that there is a norm. Yet what is normal or typical is indefinable. It is not enough to define normal by what it is not. Perhaps in order to truly embrace diversity, the focus should be on what we have in common (that is, our shared humanity) rather than what sets us apart (othering). Surely that is where understanding comes from.

For gifted individuals in the workplace, understanding is especially important as they are already prone to feeling like they are perceived as weird or different (Scott 2012). This can create a psychologically unsafe environment where they feel unable to express themselves freely (intellectually and otherwise). As it stands, they appear to be inhibited by workplaces unless they have managed to obtain a good fit (for both job and organisation). Managers, supervisors, and colleagues also play an important part in their working lives and can influence their success at work (see Nauta, Ronner & Brasseur 2012).

Work is a necessary part of life and is quite central to how we live. In Western societies (at least), there is an expectation that work is something that should make us feel happy (de Botton 2009) and fulfilled. Furthermore, achievement in adults seems to be measured by career and work success, for which the workplace is the setting. In capitalist societies, success may be determined by social and cultural values including those relating to status, and economic and material wealth as opposed to those relating to caring, people or the community (see Johnson 2017).

Aristotle talked about how work and 'labour of the hands, as much as the mercantile sides of the mind, would lead to psychological deformation' (de Botton 2009, p. 106). For him work was derided, and it was leisure time with an income that afforded the opportunity for intellectual pursuits (de Botton 2009), although he relied on the labour of slaves to do this (Bregman 2020). Interestingly, the data in this study showed that some gifted individuals have eschewed work as a source of intellectual stimulation and have instead sought it outside of that due to boredom, lack of stimulation and satisfaction (Persson 2009).

In these modern times intellectuals need to work, and they must somehow fit into the structures put in place around this (such as workplaces). Universities are no longer bastions for the intelligentsia (Graeber 2018). With the changing nature of work, academics are spending more time doing paperwork than they are researching or teaching (Graeber 2018). The challenge then is what to do with gifted individuals. They have a strong need to use their intellect, but it appears little opportunity in which to do that. Still, they are expected to excel at work because of their intelligence, not despite it.

5.1. Strengths, limitations, and future directions

The strength of this study lies in its method, where a thorough and rigorous approach was taken in assessing and selecting studies for inclusion. Furthermore, the systematic approach taken in the coding and synthesising of data has produced a faithful representation of the experiences of gifted adults in the workplace. The study was limited to experiences in the workplace and did not consider career decisions and experiences more broadly, nor did it include experiences as conveyed by a secondary source such as a counsellor. Moreover, studies with only one participant were allowed and only articles in English were considered for inclusion. This could have particular implications for Dutch studies that have not been translated into English, as there has been a growing body

of research coming out of the Netherlands in relation to adult giftedness and work. The search was also conducted in 2020, and therefore does not capture studies that may have been published since.

It is clear from the study that little research has been done on this topic and that more is needed if the unique needs of gifted adults in the workplace are to be understood. Historically, much of the research on giftedness has focused on the gifted child. The paucity of research on gifted adults alone represents a significant gap in the research. While there has been some research about gifted adults and career or life success, very little looks at their experiences in the workplace. This represents another gap in the research.

Furthermore, there are gaps in the research in all levels of interaction in the workplace as identified in this study. If a particular phenomenon about gifted adults in the workplace is explored, it is usually limited to a handful of studies or is referred to as one part of a study. That is, findings are not supported by a whole body of research but rather, a single study or small number of studies. Future research could be directed towards understanding gifted adult identities, mental health and wellbeing at work, twice-exceptionality, and self-regulation.

There are implications for educators, career guidance counsellors, managers, recruiters, diversity professionals and gifted individuals themselves, who are 'as different as snowflakes' (Streznewski 1999, p.5). This includes how educators and parents might prepare gifted children for their adult lives including social and emotional support. It also challenges the notion that gifted individuals need to 'achieve their potential' when perhaps the discourse should center around personal satisfaction and fulfilment or wellbeing. Having an awareness of giftedness, its characteristics and its challenges can assist managers and supervisors to work with the gifted employee so that both may benefit from the

understanding that that brings. Including giftedness as a concept in the diversity field may also go some way in reducing misconceptions about giftedness and therefore, misdiagnoses.

5.2. Final comments

Perhaps moving forward, the current narrative about realisation of potential in gifted individuals needs to be critically examined. As it stands, gifted individuals are expected to succeed in the workplace, where much of their adult life will be spent. However, the reality is that their work and capabilities may not be recognised, they may be punished for pointing out problems or improvements, they may be a target for workplace mobbing, they may be limited in the work they can do by recruitment processes, others may be promoted above them based on tenure, and they may end up working for people who feel threatened by their intellect.

Indeed, they may learn that the workplace is not a place to demonstrate their intellect but instead a place in which to trade excellence for mediocrity (Shareef 2015). For experience, likeability, and social and political adeptness are often the determinants of success in recruitment, promotion, and advancement outcomes. Not the ability to learn, problem solve, create, challenge, and make sense of complex concepts.

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APPENDIX A: PRISMA-P CHECKLIST

PRISMA-P (Preferred Reporting Items for Systematic review and Meta-Analysis Protocols) 2015 checklist: recommended items to address in a systematic review protocol (Shamseer et al. 2015)*

Section and topic	Item No	Checklist item
ADMINISTRATIVE INFORMATION		
Title:		
Identification	1a	Identify the report as a protocol of a systematic review
Update	1b	If the protocol is for an update of a previous systematic review, identify as such
Registration	2	If registered, provide the name of the registry (such as PROSPERO) and registration number
Authors:		
Contact	3a	Provide name, institutional affiliation, e-mail address of all protocol authors; provide physical mailing address of corresponding author
Contributions	3b	Describe contributions of protocol authors and identify the guarantor of the review
Amendments	4	If the protocol represents an amendment of a previously completed or published protocol, identify as such and list changes; otherwise, state plan for documenting important protocol amendments
Support:		
Sources	5a	Indicate sources of financial or other support for the review
Sponsor	5b	Provide name for the review funder and/or sponsor
Role of sponsor or funder	5c	Describe roles of funder(s), sponsor(s), and/or institution(s), if any, in developing the protocol
INTRODUCTION		
Rationale	6	Describe the rationale for the review in the context of what is already known
Objectives	7	Provide an explicit statement of the question(s) the review will address with reference to participants, interventions, comparators, and outcomes (PICO)
METHODS		
Eligibility criteria	8	Specify the study characteristics (such as PICO, study design, setting, time frame) and report characteristics (such as years considered, language, publication status) to be used as criteria for eligibility for the review
Information sources	9	Describe all intended information sources (such as electronic databases, contact with study authors, trial registers or other grey literature sources) with planned dates of coverage
Search strategy	10	Present draft of search strategy to be used for at least one electronic database, including planned limits, such that it could be repeated

Section and topic	Item No	Checklist item
Study records:		
Data management	11a	Describe the mechanism(s) that will be used to manage records and data throughout the review
Selection process	11b	State the process that will be used for selecting studies (such as two independent reviewers) through each phase of the review (that is, screening, eligibility and inclusion in meta-analysis)
Data collection process	11c	Describe planned method of extracting data from reports (such as piloting forms, done independently, in duplicate), any processes for obtaining and confirming data from investigators
Data items	12	List and define all variables for which data will be sought (such as PICO items, funding sources), any pre-planned data assumptions and simplifications
Outcomes and prioritization	13	List and define all outcomes for which data will be sought, including prioritization of main and additional outcomes, with rationale
Risk of bias in individual studies	14	Describe anticipated methods for assessing risk of bias of individual studies, including whether this will be done at the outcome or study level, or both; state how this information will be used in data synthesis
Data synthesis	15a	Describe criteria under which study data will be quantitatively synthesised
	15b	If data are appropriate for quantitative synthesis, describe planned summary measures, methods of handling data and methods of combining data from studies, including any planned exploration of consistency (such as I^2, Kendall's τ)
	15c	Describe any proposed additional analyses (such as sensitivity or subgroup analyses, meta-regression)
	15d	If quantitative synthesis is not appropriate, describe the type of summary planned
Meta-bias(es)	16	Specify any planned assessment of meta-bias(es) (such as publication bias across studies, selective reporting within studies)
Confidence in cumulative evidence	17	Describe how the strength of the body of evidence will be assessed (such as GRADE)

APPENDIX B: PRISMA 2020 CHECKLIST

PRISMA 2020 Checklist (Page et al. 2021)

Section and Topic	Item #	Checklist item	Location where item is reported
TITLE			
Title	1	Identify the report as a systematic review.	Title page
ABSTRACT			
Abstract	2	See the PRISMA 2020 for Abstracts checklist.	i
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of existing knowledge.	1
Objectives	4	Provide an explicit statement of the objective(s) or question(s) the review addresses.	2
METHODS			
Eligibility criteria	5	Specify the inclusion and exclusion criteria for the review and how studies were grouped for the syntheses.	23
Information sources	6	Specify all databases, registers, websites, organisations, reference lists and other sources searched or consulted to identify studies. Specify the date when each source was last searched or consulted.	24
Search strategy	7	Present the full search strategies for all databases, registers and websites, including any filters and limits used.	25
Selection process	8	Specify the methods used to decide whether a study met the inclusion criteria of the review, including how many reviewers screened each record and each report retrieved, whether they worked independently, and if applicable, details of automation tools used in the process.	27
Data collection process	9	Specify the methods used to collect data from reports, including how many reviewers collected data from each report, whether they worked independently, any processes for obtaining or confirming data from study investigators, and if applicable, details of automation tools used in the process.	28
Data items	10a	List and define all outcomes for which data were sought. Specify whether all results that were compatible with each outcome domain in each study were sought (e.g. for all measures, time points, analyses), and if not, the methods used to decide which results to collect.	28
	10b	List and define all other variables for which data were sought (e.g. participant and intervention characteristics, funding sources). Describe any assumptions made about any missing or unclear information.	28
Study risk of bias assessment	11	Specify the methods used to assess risk of bias in the included studies, including details of the tool(s) used, how many reviewers assessed each study and whether they worked independently, and if applicable, details of automation tools used in the process.	29
Effect measures	12	Specify for each outcome the effect measure(s) (e.g. risk ratio, mean difference) used in the synthesis or presentation of results.	N/A
Synthesis methods	13a	Describe the processes used to decide which studies were eligible for each synthesis (e.g. tabulating the study intervention characteristics and comparing against the planned groups for each synthesis (item #5)).	29
	13b	Describe any methods required to prepare the data for presentation or synthesis, such as handling of missing summary statistics, or data conversions.	29

Section and Topic	Item #	Checklist item	Location where item is reported
	13c	Describe any methods used to tabulate or visually display results of individual studies and syntheses.	30
	13d	Describe any methods used to synthesize results and provide a rationale for the choice(s). If meta-analysis was performed, describe the model(s), method(s) to identify the presence and extent of statistical heterogeneity, and software package(s) used.	30
	13e	Describe any methods used to explore possible causes of heterogeneity among study results (e.g. subgroup analysis, meta-regression).	N/A
	13f	Describe any sensitivity analyses conducted to assess robustness of the synthesized results.	N/A
Reporting bias assessment	14	Describe any methods used to assess risk of bias due to missing results in a synthesis (arising from reporting biases).	N/A
Certainty assessment	15	Describe any methods used to assess certainty (or confidence) in the body of evidence for an outcome.	N/A
RESULTS			
Study selection	16a	Describe the results of the search and selection process, from the number of records identified in the search to the number of studies included in the review, ideally using a flow diagram.	31-32
	16b	Cite studies that might appear to meet the inclusion criteria, but which were excluded, and explain why they were excluded.	33-34
Study characteristics	17	Cite each included study and present its characteristics.	35-40
Risk of bias in studies	18	Present assessments of risk of bias for each included study.	N/A
Results of individual studies	19	For all outcomes, present, for each study: (a) summary statistics for each group (where appropriate) and (b) an effect estimate and its precision (e.g. confidence/credible interval), ideally using structured tables or plots.	35-47
Results of syntheses	20a	For each synthesis, briefly summarise the characteristics and risk of bias among contributing studies.	48-97
	20b	Present results of all statistical syntheses conducted. If meta-analysis was done, present for each the summary estimate and its precision (e.g. confidence/credible interval) and measures of statistical heterogeneity. If comparing groups, describe the direction of the effect.	48-97
	20c	Present results of all investigations of possible causes of heterogeneity among study results.	N/A
	20d	Present results of all sensitivity analyses conducted to assess the robustness of the synthesized results.	N/A
Reporting biases	21	Present assessments of risk of bias due to missing results (arising from reporting biases) for each synthesis assessed.	N/A
Certainty of evidence	22	Present assessments of certainty (or confidence) in the body of evidence for each outcome assessed.	N/A
DISCUSSION			
Discussion	23a	Provide a general interpretation of the results in the context of other evidence.	98-106
	23b	Discuss any limitations of the evidence included in the review.	106
	23c	Discuss any limitations of the review processes used.	106
	23d	Discuss implications of the results for practice, policy, and future research.	106
OTHER INFORMATION			
Registration and	24a	Provide registration information for the review, including register name and registration number, or state that the review was not registered.	N/A

Section and Topic	Item #	Checklist item	Location where item is reported
protocol	24b	Indicate where the review protocol can be accessed, or state that a protocol was not prepared.	23
	24c	Describe and explain any amendments to information provided at registration or in the protocol.	N/A
Support	25	Describe sources of financial or non-financial support for the review, and the role of the funders or sponsors in the review.	N/A
Competing interests	26	Declare any competing interests of review authors.	N/A
Availability of data, code and other materials	27	Report which of the following are publicly available and where they can be found: template data collection forms; data extracted from included studies; data used for all analyses; analytic code; any other materials used in the review.	N/A