



UNIVERSITEIT VAN PRETORIA  
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**Teachers' experiences of how Attention-  
Deficit/Hyperactivity Disorder influences learners' career  
choices**

by

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**MAGISTER EDUCATIONIS**

(Educational Psychology)

in the

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August 2022

*I dedicated this mini dissertation to my husband and my son. Together we can accomplish anything we put our minds to.*

*I am proud of our family and what we have achieved together.*

*With all my love.*

## DECLARATION OF ORIGINALITY

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I Kayleigh Meggan Warnock, declare that the mini dissertation titled “**Teachers’ experiences of how Attention-Deficit/Hyperactivity Disorder influences learners’ career choices**” which I hereby submit for the degree Magister Educationis in the Department of Educational Psychology, Faculty of Education at the University of Pretoria, is my own work and has not previously been submitted by me for a degree at this or any other tertiary institution.

.....  
**Kayleigh Meggan Warnock**

August 2022

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# ABSTRACT

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In school settings, attention-deficit/hyperactivity disorder (ADHD) affects between 3% and 5% of learners (American Psychiatric Association (APA), 2013). Learners with ADHD often continue to experience negative effects as they progress through different life stages (Barkly & Murphy, 2010; Prevatt et al., 2015). Learners who have ADHD may experience career choice difficulties that differ from those of their classmates without ADHD and this may ultimately impede the former's career choices (Bahny & Dipeolu, 2012).

This research study aimed to understand and explore teachers' experiences of how ADHD may influence their learners' career choices. Five teachers who taught Grade 11 and 12 learners with ADHD were selected purposely. Krumboltz's social learning theory of career decision making (Krumboltz, 1994; Krumboltz et al., 1976) served as the conceptual framework for the study and an interpretivist approach was followed. An exploratory case study design and a qualitative approach were adopted. Data was gathered by means of an audio-recorded semi-structured focus group interview, and the researcher kept a research journal. The data was analysed and interpreted using an inductive thematic analysis.

The findings show that the teachers envisioned different factors to have a direct effect on the career choices of their learners with ADHD, namely an aversion to attending tertiary institutions, financial constraints caused by attending tertiary institutions, lack of confidence and lack of self-efficacy. The teachers also suggested that taking medication for ADHD may influence the career choice of affected learners in both a positive and negative manner. Parents and prospective employers were named as playing a clear role in the career choice of learners with ADHD, and the symptoms of inattentive ADHD often swayed them to choose careers that are entrepreneurial in nature.

**Key words:**

Career guidance, career choices, Attention-Deficit/Hyperactivity Disorder (ADHD), teachers

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# CHAPTER 1: INTRODUCTION, RATIONALE, AND OVERVIEW

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## 1.1 INTRODUCTION AND RATIONALE

The worldwide prevalence rate for school learners with attention-deficit/hyperactivity disorder (ADHD) ranges between 3% and 5% (American Psychiatric Association (APA), 2013). Although the prevalence rate has not been officially confirmed in South Africa (Muthukrishna, 2013; Perold et al., 2010; Tomevi, 2013), this statistic means that an average of one in every 25 learners suffers from this disorder (APA, 2013; Özel-Kizil et al., 2016). Cross-cultural studies suggest that the number of people with ADHD is on the rise in developing countries such as Africa – by as much as 10% (Kashala et al., 2005; Ofovwe et al., 2006; Tomevi, 2013; Topkin & Roman, 2015).

ADHD often continues into adulthood, which could have negative impacts on a person throughout the different stages of their life (Barkly & Murphy, 2010; Prevatt et al., 2015). One such stage of life is when a young adult is faced with the decision of what career journey they wish to pursue (Dipeolu, 2010). Research suggests that ADHD symptoms might be associated with negative career thoughts, which may hamper and could ultimately obstruct the process of making a career choice for individuals with ADHD (Bahny & Dipeolu, 2012). Learners with ADHD may therefore require unique guidance in the area of making career choices (Dipeolu, 2010).

A fair amount of research on ADHD in children and young people has been undertaken and reported on internationally (Barkley, 1998; Barkly & Murphy, 2010; Dipeolu, 2015; Loe & Feldman, 2007; Muthukrishna, 2013). These studies mostly focus on topics such as medication, effects of ADHD on children, how ADHD affects parents, and how ADHD affects schooling and the school environment (Gau, 2007; Muthukrishna, 2013).

Although studies have been conducted on the effects of ADHD in adults, the research is limited and there is a paucity of research that supports informed career guidance within this specific group (Barkley, 1998; Biederman & Faraone, 2006; Dipeolu, 2015; Dipeolu, 2010). To the researcher's knowledge, the few studies that have been conducted on how ADHD may influence the future careers of these learners



are limited to a handful of international studies (Amod et al., 2013; Dipeolu, 2010; Dipeolu et al., 2015; Kuriyan et al., 2012; Nadeau, 2016; Tomevi, 2013; Weyandt & DuPaul, 2013). Furthermore, little research has been conducted in South Africa regarding ADHD and most of it centres around (but is not limited to) schooling and more specifically teachers' knowledge and understanding of ADHD (Amod et al., 2013; Muthukrishna, 2013; Ofovwé, 2006; Perold et al., 2010). The lack of current research on how ADHD may influence career choices could suggest a gap in the research field regarding ADHD and career choices, more especially within South Africa.

Learners with ADHD may be living with the reality of struggling to make a career choice (Dipeolu, 2010). Accordingly, the lack of research that investigates how ADHD may influence career choices is an important area of research which, if expanded and built upon, may well assist learners with ADHD. Taking this aspect into account, teachers play a major role in the multidisciplinary team when learners with ADHD are diagnosed, treated and supported, which may suggest that these teachers have a unique understanding of learners with ADHD (Biederman & Faraone, 2006; Perold et al., 2010). Experienced teachers who have refined their methods of working with learners with ADHD could ultimately aid these learners in making better career decisions (Perold et al., 2010).

Based on the above assumption, it could be quite useful to conduct this study as teachers may have valuable insights into the everyday lives of learners with ADHD and the difficulties they have in making career choices (Biederman & Faraone, 2006; Dipeolu et al., 2015). It could be worthwhile to explore teachers' ideas with regard to how they believe learners with ADHD may partake in the career decision-making process. Furthermore, the findings of this study could aid future research about the career choices of individuals with ADHD.

## **1.2 PURPOSE OF THE STUDY**

The purpose of this exploratory case study was to explore and describe teachers' experiences of how ADHD may influence learners' career choices.

## **1.3 RESEARCH QUESTIONS**

### **1.3.1 Primary research question**

The primary research question for this study was formulated as follows: *What are teachers' experiences of how ADHD may influence learners' career choices?*

### **1.3.2 Secondary research questions**

The primary research question necessitated the formulation of two secondary questions:

- ❖ *What factors do teachers believe play a role in the career choices that learners with ADHD make?*
- ❖ *How do educational outcomes influence learners with ADHD when making a career choice?*

## **1.4 WORKING ASSUMPTIONS**

A number of assumptions were made for the purpose of this study:

- ❖ Teachers will have sufficient knowledge and understanding of ADHD to have a viewpoint about how this disorder influences the career choice of their learners.
- ❖ Teachers who work with learners with ADHD in Grade 11 and Grade 12 will be able to understand what making a career choice entails and what different career expectations mean for learners with ADHD.
- ❖ Teachers will be able to describe their ideas and views on how learners with ADHD make career decisions and what factors play a role in their career choices.
- ❖ Teachers will be able to understand educational challenges that may affect the career choices of learners with ADHD.
- ❖ Interviews conducted as part of qualitative research will provide the opportunity to explore and describe teachers' experiences.

## **1.5 CONCEPT CLARIFICATION**

The key concepts as used in this study – career guidance; career choices; Attention Deficit/Hyperactivity Disorder (ADHD); teachers – are clarified below.

### **1.5.1 Career guidance**

The support that an individual receives to establish a realistic and comprehensive view of themselves and their own position in their career life journey

(Maree, 2020; Savickas, 2019). Career guidance exposes learners to the world of work early in their development, and this exposure aids in the facilitation of knowledge and an understanding of the various roles they may play during the various stages of their lives (Savickas, 2019).

### **1.5.2 Career choices**

A process during which a person categorises information, considers other possibilities, and then ultimately makes a commitment to a specific career or career journey (Gati & Shiri, 2008). Making a career choice may facilitate the individual's sense of developing and accepting a comprehensive and accurate understanding of their role in the workplace (Maree, 2020; Savickas, 2019).

### **1.5.3 Attention-Deficit/Hyperactivity Disorder (ADHD)**

For this study, attention-deficit/hyperactivity disorder (ADHD) will be referred to as a neurodevelopmental disorder that presents with behaviour patterns that include inattention and/or hyperactivity-impulsivity and that restrict normal development or performance (APA, 2013). The inattention or hyperactivity/impulsivity is characterised by six or more symptoms presented in the *Diagnostic and Statistical Manual of Mental Disorders (DSM-5)* (APA, 2013). ADHD can manifest as three different subtypes, namely predominantly inattentive, predominantly hyperactive/impulsive and the combined type (APA, 2013). In this study the term ADHD is used to refer to all three of these subtypes.

### **1.5.4 Teachers**

In this study, teachers are defined as those educators who work specifically with learners who present with learning disabilities. These teachers may be employed in a special needs school that caters specifically for learners with special needs who may require unique teaching methods to help them achieve despite their limitations (Sokanu Interactive Inc, 2019). These teachers generally work with children with mild or moderate disabilities, and they often change the curriculum to cater for the individual needs of the learners (Sokanu Interactive Inc, 2019). In the current study, the term 'teacher' refers to a person who teaches children with ADHD at a special needs school. The teachers who were interviewed, related various experiences to indicate on how ADHD may influence their learners' career choices.

## **1.6 DELIMITATION AND LIMITATIONS OF THE STUDY**

The present study was limited to interviews with the teachers of learners with ADHD who, at the time of the study, taught at a school in the Tshwane Metropolitan Municipality that caters for learners who have ADHD.

Since the researcher used convenience sampling in the study, the generalisability of the results was decreased. The sampling method that she used also aligned the study with specific participants who have had unique experiences with learners with ADHD. The participants had differing experiences within their different classroom contexts, which further limited the generalisability of data that had been gathered. The presence of the researcher throughout the data-gathering process may also have influenced the research findings, since the participants could potentially have specified answers which they might have supposed the researcher predicted.

## **1.7 SIGNIFICANCE OF THE STUDY**

This study may contribute to the existing literature on how ADHD influences career choices, as the findings may offer insight into teachers' experiences of how ADHD influences the career choices of learners with ADHD. Thus, the study should add to our knowledge of teachers' experiences of working with learners with ADHD. The study aims to identify the different factors that may influence learners with ADHD in making a career choice. These factors can then be used in intervention programmes to support both learners with ADHD making a career choice and the teachers who assist in this process. The study may furthermore increase our awareness of teachers' experiences of the effects of ADHD on career decision making. Thus, the findings are hoped to inform the practice of teachers and career development practitioners who facilitate career guidance and counselling for learners with ADHD.

## **1.8 OUTLINE OF RESEARCH APPROACH, PARADIGM, AND PROCESSES**

Table 1.1 provides an overview of the research paradigm, research approach and the processes used in this research. Chapter 3 provides a detailed analysis of the methodological choices made in this study.

**Table 1.1: FRAMEWORK OF RESEARCH PROCESS**

<b>OVERVIEW OF THE RESEARCH METHODOLOGY APPROACH AND PROCESS</b>					
<b>RESEARCH QUESTIONS</b>					
<b>Primary research question</b>					
What are teachers' experiences of how ADHD may influence learners' career choices?					
<b>Secondary research questions</b>					
What factors do teachers believe play a role in the career choices that learners with ADHD make? How do educational outcomes influence learners with ADHD when making a career choice?					
<b>OVERVIEW OF RESEARCH METHODOLOGY, APPROACH AND PROCESS</b>					
<b>Paradigm and research approach</b>	<b>Research design</b>	<b>Selection of case and participants</b>	<b>Data gathering</b>	<b>Data analysis and interpretation</b>	<b>Ethical considerations</b>
Interpretivism  Qualitative research methodology	Exploratory case study	Purposive selection was used to identify the participants and the research site	Semi-structured focus group interview  Audio-recording device used during interviews to capture the data  Research journal	Inductive thematic data analysis	Ethical clearance from the University of Pretoria  Permission to conduct the study at the research site  Informed consent from participants  All information treated confidentially  Participants protected from harm

## **1.9 OVERVIEW OF THE STUDY**

The next section indicates the outline of each chapter in this mini dissertation.

### **CHAPTER 1: INTRODUCTION, RATIONALE, AND OVERVIEW**

Chapter 1 presents the purpose, rationale for, and the background of the study. Both primary and secondary research questions are stated followed by the working assumptions. The study delimitation and limitations are discussed, along with the significance of the study. The chapter concludes with an overview of the framework of research process.

### **CHAPTER 2: LITERATURE REVIEW**

Chapter 2 presents a review of the available literature in an attempt to understand how Attention-Deficit/Hyperactivity Disorder influences learners' career choices. The chapter begins with a brief overview of ADHD, as well as the educational outcomes and emotional and social challenges for learners with ADHD. Subsequent sections in the literature review explore ADHD as it relates to adolescence and how it might influence career choices. The role of the teacher for learners with ADHD is outlined. The conceptual framework of the study, namely Krumboltz's Social Learning Theory of Career Development (Krumboltz 1994; Krumboltz et al.,1976) is presented and clarified before the chapter is concluded.

### **CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY**

Chapter 3 presents the research design and methodology, as well as the selection of the participants' and research site. This is followed by a discussion of data gathering, documentation, analysis and interpretation. The chapter concludes with a discussion of how the criteria of trustworthiness for the study were met, as well as how the ethical considerations were addressed.

### **CHAPTER 4: DATA ANALYSIS AND RESULTS**

The research findings and results are presented Chapter 4.

## **CHAPTER 5: THE FINDINGS OF THE CURRENT STUDY WITHIN THE CONTEXT OF LITERATURE**

In Chapter 5 the findings are reviewed, based on the literature available on the topic under consideration.

## **CHAPTER 6: FINDINGS, RECOMMENDATIONS, AND CONCLUSIONS**

This final chapter provides answers to the questions presented in Chapter 1 by making use of the results of the study. Some ethical aspects, recommendations for future research, as well as a personal reflection are presented in this chapter. A summary of the research process as well as an epilogue concludes the dissertation.

# CHAPTER 2: LITERATURE REVIEW

---

## 2.1 INTRODUCTION

Chapter 2 presents a review of the scholarly literature in an attempt to understand how attention-deficit/hyperactivity disorder influences learners' career choices. The chapter begins with a brief overview of ADHD and its symptoms and then proceeds to explore the effect of ADHD on educational outcomes, as well as the emotional and social challenges experienced by learners with ADHD.

The next section describes the implications for adolescents with ADHD, as well as the effects of ADHD on career the career journey. The literature review also highlights the role that teachers play on the career choice of learners with ADHD. The final section of the chapter presents the conceptual framework of the present study, which is based on Krumboltz's social learning theory of career decision making (Krumboltz, 1994 Krumboltz et al., 1976).

## 2.2 A BRIEF OVERVIEW OF ADHD

ADHD as a neurodevelopmental disorder is one of the most frequently diagnosed mental health disorders in children (APA, 2013; Lawrence et al., 2017), yet the exact cause of ADHD is still unknown (Thapar et al., 2013). Individuals must exhibit at least six hyperactive-impulsive symptoms within six months as well as academic and/or social impairment, to meet the Diagnostic Statistical Manual (DSM-5) criteria for this condition (APA, 2013). There are three main subtypes of ADHD: the predominantly inattentive type; the predominantly hyperactive/impulsive type; and the combined type, which includes symptoms of both hyperactivity/impulsivity and inattention (APA, 2013).

The prevalence of ADHD occurs across the majority of cultures, with around 5% present among children and around 2,5% in adults (APA, 2013). ADHD has been associated with genetic and physiological factors as well as a significant inheritability rate, which increases the risk of ADHD if a biological relative has been diagnosed with ADHD (APA, 2013). The likelihood of being diagnosed with ADHD is three times more likely among males than females (Centers for Disease Control and Prevention (CDC, 2017). ADHD symptoms that usually manifest in boys are more commonly associated with externalised behaviour such as hyperactivity and impulsivity, which interrupt and



unsettle classroom environments, workplaces, and social situations (CDC, 2017). Symptoms of ADHD in girls are mostly associated with inattention and non-disruptive behaviour, such as seen in symptoms of forgetfulness, lack of organisational skills and daydreaming (Lawrence et al., 2017). Although the more obvious symptoms of disruption appear to support higher chances of males being diagnosed with ADHD, females often experience the same challenges within the school environment, such as impairments in academic, educational, social and emotional areas (CDC, 2017; Lawrence et al., 2017). Unfortunately, in many cases, the symptoms in girls are overlooked, which results in fewer diagnoses and could have a lasting effect on them (CDC, 2017).

Most cases of ADHD are diagnosed during childhood and symptoms usually become apparent between the ages of three and six (Loe & Feldman, 2007). However, ADHD manifests itself as a chronic lifelong disorder (Lawrence et al., 2017). Symptoms of ADHD include hyperactive/impulsive behaviours, inattentive behaviours, or a combination of both, and the disorder often influences various areas of development and normal functioning (APA, 2013). A person diagnosed with ADHD may find that the symptoms affect social skills, educational achievement, behaviour, emotional development, interpersonal relationships, and in adulthood, the ability to retain employment (Biederman & Faraone, 2006). Symptoms of ADHD are usually noted in more than one environment such as at school and at home (APA, 2013).

### **2.3 THE EFFECT OF ADHD ON EDUCATIONAL OUTCOMES**

Many difficulties associated with school functioning are typically experienced for learners with ADHD (Abikoff et al., 2002). For example, a study by Loe and Feldman (2007) found that learners with symptoms of inattention, hyperactivity and impulsivity, showed poorer academic and educational outcomes. According to Kofler et al. (2019), reading difficulties in learners with ADHD are often associated with poor working memory development and inattention has been shown to correlate with reading proficiency. Research has shown that low reading fluency and word reading problems associated with learners with ADHD can be linked to poor sustained attention, working memory speed and processing speed deficits (Denton et al., Jacobson et al., 2013; Tamm et al., 2014). According to Barkley and Murphy (2010), learners with ADHD often experience more obvious difficulties with numeracy and reading. Additionally, learners with ADHD are frequently inattentive in addition to

showing signs of distracted behaviour in the classroom at a significantly higher rate than their non-ADHD peers (Abikoff et al., 2002).

Learners diagnosed with ADHD show particularly low levels of task completion when they are required to perform passive activities in the classroom, such as following instructions, sitting quietly, and engaging in reading activities on their own (Junod et al., 2006). This has a profound influence on their educational outcomes within the early years of their schooling and may be compounded as the learner moves through the school phases (Kuriyan et al., 2012). As ADHD has an effect on educational outcomes, the probability of learners with ADHD repeating grades, taking remedial classes, or being enrolled in special needs classes is often higher compared to those without ADHD (Kuriyan et al., 2012).

Learners with ADHD often exhibit symptoms of hyperactivity and impulsivity. Hyperactivity or impulsivity in ADHD often manifests in restless, fidgeting and/or inappropriate body movements within the classroom (Semrud-Clikeman & Ellison, 2007). For example, learners may squirm or wriggle in their seats, get up when seating is required and interrupt conversations (APA, 2013). In addition, learners with ADHD often make impulsive behavioural decisions despite previous disadvantageous consequences; these impulsive decision-making habits may translate into their career decisions later in life (Perold et al., 2010).

Metin et al., (2013) report that learners with ADHD may be less accurate in their ability to respond to incoming information related to task completion, even when a task requires a decreased demand on inhibitory control. Learners with ADHD may also find it difficult to inhibit hyperactive responses in situations that are not stimulating or that require sustained effort (Metin et al., 2013; Semrud-Clikeman & Ellison, 2007). Impulsive and hyperactive behaviour often becomes problematic in environments where learners with ADHD are required to exert self-control, such as in the classroom (Barkly & Murphy, 2010; Denton, et al., 2020; Semrud-Clikeman & Ellison, 2007). Barkly and Murphy (2010) agree that learners with ADHD may struggle with following instructions and they often act out impulsively.

Attention problems are another of the primary symptoms of ADHD that can have an impact on the educational outcomes for learners with ADHD (Barkley, 1998; Barkley & Murphy, 2010). Due to these attention challenges, learners with ADHD may experience difficulty concentrating, which can affect their ability to focus at school (Dipeolu et al., 2015). This may be related to cognitive deficits in the processing speed

of learners with ADHD that is generally considered to be weaker than their non-ADHD classmates (Semrud-Clikeman & Ellison, 2007). These attention problems include being easily distracted and being hyperfocused (Ozel-Kizil et al., 2016). The latter is the opposite of being easily distracted, as it is difficult for learners to shift their attention away from the task on which they are focusing to a different task or stimulus (Ozel-Kizil et al., 2016).

Hyperfocus, which is often seen in learners with ADHD, involves an intense form of concentration and is typically observed when a learner is playing video games or watching television programmes (Royal et al., 2015; Ozel-Kizil et al., 2016). However, hyperfocus can be seen in the classroom environment when learners with ADHD become easily distracted when they are under-stimulated, but hyperfocused when it comes to a classroom task that they find stimulating (such as an art activity) (Royal et al., 2015).

Although learners with ADHD may be able focus on specific stimuli, they may have trouble resisting external stimuli that they find more appealing (Semrud-Clikeman & Ellison, 2007). This may ultimately have an effect on their learning and their educational outcomes.

## **2.4 EMOTIONAL AND SOCIAL CHALLENGES FOR LEARNERS WITH ADHD**

Learners with ADHD could experience difficulties such as social rejection and interpersonal relationship problems, for instance they may experience challenges in their daily functioning – they may have difficulties at school, struggle with relationships with their peers and show disruptive behaviour at school (Kuriyan et al., 2012). Social situations may be difficult for those who have ADHD, which sets them apart from their classmates without ADHD (Barkly & Murphy, 2010; Kuriyan et al., 2012). Expulsion, suspension, or involvement in undesirable behaviours in the school environment may occur as a result of impulsivity in learners with ADHD (Loe & Feldman, 2007).

Learners with ADHD are often involved in social problems within the family or school environment, as their behaviour can be volatile and argumentative (Perold et al., 2010; Ozel-Kizil et al., 2016). This type of volatile and argumentative behaviour is often repeated, despite previous negatively experienced consequences (Perold et al., 2010). The problems that manifest in learners with ADHD often continue and may

even worsen when they move from primary school to high school (Kuriyan et al., 2012).

Socially inept behaviours that are often exhibited by learners with ADHD include interrupting conversations, invading others' personal space, having difficulty maintaining eye contact, experiencing challenges to listen attentively, and displaying impulsive behaviours (Lawrence et al., 2017). Such behaviours result in learners being awkward in social situations, which may negatively impact their ability to build healthy social relationships (Hong, 2008). This is particularly true when learners with ADHD are building relationships with peers who do not have ADHD (Law et al., 2007) and could contribute to increased feelings of isolation and loneliness (Law et al., 2007). Furthermore, learners with ADHD may be viewed negatively by adults (Kuriyan et al., 2013) such as teachers, school staff and healthcare providers who commonly interact with learners who have ADHD (Mueller et al., 2012).

Emotional challenges, such as managing emotions or having difficulty with impatience, intolerance and excitability could also influence the daily lives of learners who have ADHD (Perold et al., 2010). Research shows that the emotional and psychological development of learners who have ADHD is often affected (Loe & Feldman, 2007; Mash & Wolfe, 2010). For example, a person who has been diagnosed with ADHD has an increased chance of having comorbid psychiatric disorders such as conduct and oppositional disorders or mood and anxiety disorders (Mash & Wolfe, 2010). The high occurrence of comorbid psychiatric disorders may have a negative influence on aspects of emotional development such as self-esteem and self-efficacy (Brooks, 2016). This may have a lasting impact on learners with ADHD and affect their social, psychological, and academic development.

Challenges with impulsivity and hyperactivity may manifest in learners who have ADHD and these impulsive decision-making habits may affect their career decisions later in life (Perold et al., 2010).

## **2.5 THE EFFECT OF ADHD ON ADOLESCENTS**

ADHD as a disorder is not only seen in childhood – in many cases, ADHD continues into adolescence and even adulthood. A study conducted by Hallberg et al. (2010) reports that it is especially during the adolescent years that learners with ADHD experience feelings of being different to their peers. Their study suggests that experiencing themselves as different to their peers was so stressful to the participants

that they endeavoured to hide both their diagnoses and the taking of ADHD medication from their peer group (Hallberg et al., 2010).

The benefits of medication as a treatment for ADHD were revealed in research conducted by Meaux et al. (2006). Some adolescents reported that taking prescribed medication helped them to concentrate better, have higher levels of motivation and be less distracted. According to Prosser (2008), adolescents stressed that because ADHD medication aided them to think more clearly before making decisions, they achieved more constructive outcomes in the school environment. Meaux et al. (2006) as well as Avisar and Lavie-Ajayi (2014) indicated that despite the potential side effects of taking medication, adolescents continued taking medication as it supported them to fulfil behavioural, educational and academic expectations.

Adolescents who do not manage their ADHD symptoms with medication may experience difficulties in the educational setting (Weyandt & DuPaul, 2006) and may be at a greater risk of experiencing challenges in their academic life (Barkly & Murphy, 2010). Of interest, however, is that research shows that about 4% of learners who pursue further education after high school have actually been reported to have symptoms of ADHD (Tomevi, 2013).

Adolescents with ADHD have a higher probability of obtaining lower academic scores due to their reduced study-coping abilities and less effective learning styles. These challenges result in this group having an increased probability of dropping out (Dipeolu, 2010; Kuriyan et al., 2012). Moreover, tertiary students who have ADHD have a larger chance of achieving lower grade averages, and of having poorer academic coping skills and less effective study skills (Prevatt et al., 2015).

Adolescents with ADHD are at a greater risk than those without ADHD of exhibiting antisocial behaviour and engaging in substance abuse or criminal activity (Barkly & Murphy, 2010; Biederman & Faraone, 2006). Research has offered convincing connections between an ADHD diagnosis and substance abuse or alcoholism (Swanson et al., 2016; Gàlan & Humphreys, 2017; Biederman & Faraone, 2006). Children who have ADHD are at a greater risk of developing a dependence on marijuana, nicotine or cocaine when they enter adolescence (Kalbag & Levin, 2005; Gàlan & Humphreys, 2017). Seeing that studies show that around 15% of adolescents with ADHD have a comorbid substance-use disorder (Biederman & Faraone, 2006; Kalbag & Levin, 2005; Gàlan & Humphreys, 2017), these findings indicate a potential

link between ADHD and substance abuse (Swanson, et al., 2016; Kalbag & Levin, 2005; Gàlan & Humphreys, 2017).

## 2.6 THE EFFECTS OF ADHD ON THE CAREER JOURNEY

ADHD is considered one of the most extensively studied disorders in young children (Barkley, 1998; Dipeolu et al., 2013; Kuriyan et al., 2013) and having ADHD has been shown to profoundly affect the economic potential of those with the disorder – mostly in a negative way (Wyld, 1996). Research on learners having been diagnosed with ADHD as children shows that there is a substantial difference between their educational achievement and career choices and the achievement and choices of others without ADHD (Barkley, 1998; Mannuzza et al., 1993; Weiss & Hechtman, 1993; Wyld, 1996). Due to the continued and pervasive academic and behavioural challenges facing learners with ADHD, it is not uncommon that they struggle to make decisions about their career journey via higher and tertiary education (Weynandt & DuPaul, 2013). As career requirements are often linked to academic achievement, such performance could influence how individuals with ADHD identify appropriate career goals (Prevatt et al., 2015).

### 2.6.1 The difference between vocational guidance, career education and career counselling

According to Savickas (2019), vocational guidance, career education, and career counselling are distinct from one another as indicated in Table 2.1.

**Table 2.1:** Summary of the difference between vocational guidance, career education and career counselling (adapted from Maree 2020a; Savickas, 2019)

VOCATIONAL GUIDANCE	CAREER EDUCATION	CAREER COUNSELLING
Develops knowledge about self	Supports the development of a career	Links to life design counselling
Provides a wider range of information about occupations	Looks at ability to take on tasks that align with current life stage	Aids in the designing of a career life
Aids to match individual to an occupation	Aims for exposure to the world of work from an early age	Aids in the development of aspirations and ambitions
May make use of assessments to find an occupation that matches personality	Increases awareness of the impact of various life roles throughout different life stages	Aims to encourage career adaptability within career journeys

Vocational guidance aims to help people to find occupations that are compatible with their personality traits and characteristics (Savickas, 2019). Career education refers to preparing an individual to commit to developmental tasks that align with their current life stage and to acquire new skills and competencies, beliefs and attitudes that aid in the development of their careers (Maree, 2020a; Savickas, 2019). Career counselling is linked to life design counselling, which aids individuals to design their own work life. Life design guides individuals to understand everyday life and construct the career journey by making use of short stories. These stories are reconstructed to form an identity narrative and the career counsellor and the client then co-construct a plan for a real-life career journey (Maree, 2018). Career counselling and life design do not only help individuals to identify their passions and inspiration, but also equip them with skills to adapt to their future careers through meaningful role models and mentors (Maree, 2020a; Savickas, 2019). Career education and career guidance are important processes for school-aged learners. In fact, it may be especially important for learners with ADHD so as to facilitate learning about the world of work and becoming aware of the impact of varying roles as they develop in life (Maree, 2020a; Savickas, 2019).

Dipeolu et al. (2013) and Nadeau (2005) investigated career guidance and counselling for ADHD learners. For example, in a study involving adults with ADHD, Nadeau (2005) suggested that it was challenging to find career professionals who were familiar with ADHD and who could offer appropriate guidance and counselling to influence learners' career decisions. The study revealed that career consultants generally had little knowledge about how adolescents with attentional or learning problems could be helped to make a career choice (Nadeau, 2005).

According to Ruiters (2020), the career counselling process in South Africa usually involves numerous quantitative psychometric tests to score an individual's abilities such as different interests and personality characteristics. This is an outdated method of career counselling and may fall short of the varying needs of different individuals such as those with ADHD (Ruiters, 2020). Career counsellors should assist individuals with different needs (such as ADHD) to plan their next steps after high school (Gibbons & Hughes, 2016). If career counsellors were to adopt a subjective, qualitative approach such as the one used by Maree (2013), they might be better able to meet the needs of learners who have ADHD. By using this approach, the career

counsellor would shift away from being the expert to become the collaborator who allows the learners with ADHD to narrate their own career life story (Maree, 2012).

### **2.6.2 ADHD and career choice**

Making a career choice can be a difficult task for many individuals for a range of reasons (Maree, 2020b). For example, they may have received inadequate guidance from those around them, who may not be appropriately trained to provide career-related information (Maree, 2020b). Some individuals may not be readily prepared to make career decisions. According to Gati et al. (1996) as well as Morgan and Ness (2003), the lack of readiness to make a career choice may be linked to three difficulties: firstly, a lack of motivation to begin with career decisions; secondly, broad indecisiveness that impacts all decisions, thirdly, the individual may hold dysfunctional career-related beliefs such as that there is only one 'correct' career for every individual (Gati et al., 1996; Morgan & Ness, 2003).

Career choice-making skills are considered an important part of choosing a successful career, and career indecision has been related to self-esteem issues (Brooks, 2016; Dipeolu, 2010). Individuals who have ADHD also often struggle to make a career choice, and Norwalk et al. (2009) found that there was a negative relationship between individuals with ADHD and their career choice making and self-efficacy. This could be related to deficits in executive functioning, which hamper planning abilities and cause attention problems among individuals with ADHD (Brooks, 2016; Weyandt & DuPaul, 2006). Moreover, since individuals with ADHD have a higher chance of experiencing comorbid disorders such as anxiety and depression, these challenges could have a further impact on their career choice-making abilities (Biederman & Faraone, 2006; Brooks, 2016).

Learners with ADHD often display characteristics that complicate their career development and career choice making (Dipeolu, 2010). For example, learners with ADHD have been known to change from one topic to another at a fast pace, without answering questions in an orderly manner (Brooks, 2016). They often show thought patterns that seem unorganised and exhibit behaviours that range from uninterested to restless or irritated (Brooks, 2016). Furthermore, some learners with ADHD have been known to show no interest in a career and even avoid recommendations of career fields (Dipeolu, 2010; Brooks, 2016). In contrast, learners with ADHD may have an array of career ideas and feel anxious due to indecision (Brooks, 2016). Since the



symptoms of ADHD are invisible, the person with ADHD is often misunderstood and their actions interpreted incorrectly (Gray, 2009). This situation can become extremely challenging not only for the individual who has ADHD, but also for any person who is providing them career assistance or guidance (Brooks, 2016).

### **2.6.3 ADHD and its effect on career functioning**

ADHD has been associated with various challenges in career functioning. Adults who presented with ADHD as children show significantly lower occupational status, receive poorer job ratings from employers and have a higher chance of being fired more frequently than people who never had ADHD (Barkly & Murphy, 2010; Kuriyan et al., 2012). Additionally, adults who have been diagnosed with ADHD have a higher likelihood of having been dismissed from employment, having resigned impulsively from a job, having taken a higher number of leave days, and having had multiple jobs. They also seem to have prolonged employment issues in comparison to their non-ADHD colleagues and friends (Barkly & Murphy, 2010).

## **2.7 TEACHERS AND THE ROLE THEY PLAY WITH LEARNERS WITH ADHD**

In this section, the researcher first makes some general observations regarding how learners with ADHD are impacted at the end of their schooling careers when they enter the workplace. Next, she discusses teachers' experiences of ADHD and how this may influence their understanding of ADHD, before she concludes with teachers' support and impact on their learners with ADHD when the latter make career choices.

### **2.7.1 General observations regarding teachers and their role with learners with ADHD**

Teachers play an important role in many aspects of their learners' lives, especially when the learner has ADHD (Barkley, 1998; Mannuzza et al., 1993; Weiss & Hechtman, 1993; Wyld, 1996). Even though many of the quoted studies were conducted in the 1990s, they illustrate how ADHD can affect adolescents in the career choices they make once they have left high school (Wyld, 1996).

A study conducted by Van Wijk (2019) looked at adult ADHD in the workplace by evaluating the effectiveness of self-reported screening measures. Participants were drawn from a number of different occupations and were mostly considered to be skilled with some previous training required for their jobs (Van Wijk, 2019). The results of the

study showed that ADHD was common within the studies sample population. The researcher went on to suggest that policymakers should allocate resources so as to offer support and encouragement by effective screening for adults with ADHD within the workplace (Van Wijk, 2019). The scale used in the study was shown to be effective in research or screening settings to help recognise individuals who are at a higher risk of experiencing challenges with ADHD in the workplace (Van Wijk, 2019).

In their study conducted in 2017, Schoeman and De Klerk looked at adult ADHD in South Africa by analysing the private health insurance database over a two-year period. They found that private health insurance schemes limited access to funding to treat and diagnose adults with ADHD (Schoeman & de Klerk, 2017). The study went on to suggest that an alternative and less costly model to fund and increase access to treatment for adults with ADHD could improve the quality of life for this population of South Africans (Schoeman & de Klerk, 2017).

Burke et al. (2011) looked at the adult ADHD rate in a South African university student population and suggested that an average of between 13% and 19% of the student population could have ADHD. This may imply that although adult ADHD is well recognised internationally, in South Africa there is a lack of awareness and available resources for diagnosing and treating ADHD that persists into adulthood. According to Schoeman and De Klerk (2017), this could certainly impact career choices.

Next follows a discussion of teachers' experiences of ADHD and how this influences their knowledge and understanding of their learners who have ADHD.

## **2.7.2 Teachers' experiences with and understanding of learners with ADHD**

### *2.7.2.1 Teachers' knowledge and understanding of ADHD*

Braude and Dwarika (2020) suggest that teachers' experiences with ADHD may influence their knowledge and understanding of learners with ADHD. Teachers who teach learners with ADHD often have difficulty in preventing disruptions in the classroom, finding ways to keep learners on task and enhancing the learning potential of these learners (Lawrence et al., 2017). After extended exposure, teachers' perceptions of learners with ADHD may be influenced and this can impact the way in which they interact and direct these learners (Lawrence et al., 2017). Al-Moghamsi and Aljohani (2018) propose that teacher experiences of ADHD can be influenced when family members and people in their personal lives have been diagnosed with ADHD. The way teachers understand the experiences they have with learners with

ADHD may contribute to the support and interaction they provide to the learners with ADHD in their classrooms and the manner in which they engage with the caregivers of these learners (Al-Moghamsi & Aljohani, 2018).

#### *2.7.2.2 Teachers' emotional experiences with regard to learners with ADHD*

Teachers may be emotionally impacted when they try to facilitate learning for learners with ADHD. Lawrence et al. (2017) examined teachers' perceptions and experiences of learners with ADHD and found that the emotional effects related to the everyday difficulties of teaching learners with ADHD constituted a common theme throughout the study. The teacher participants reported experiences of negative emotions and feelings of responsibility for the potential and future of their learners with ADHD (Lawrence et al., 2017). Additionally, the participant teachers stated concern about the possible career choices for learners with ADHD and reported that part of their job was to prepare students for situations in life such as career choices (Lawrence et al., 2017).

#### *2.7.2.3 Specific factors that impact teachers' experiences with learners with ADHD*

To begin with: Teachers who teach learners with ADHD need to have in-depth knowledge and the necessary skills to accommodate their learners' different learning needs (Lavian, 2015). Furthermore, relationships that teachers have with their learners are often more involved due to the multifaceted requirements of learners with ADHD (Lavian, 2015). Teachers' experiences of ADHD may be impacted by factors such as religion, gender, age and culture (Lawrence et al., 2017; Braude & Dwarika, 2020). For instance, Lawrence et al. (2017) believe that a teacher's personal understanding of ADHD symptoms may be influenced by their own culture, age, and religious background, and also by the learner's specific age, religion and cultural beliefs. Braude and Dwarika (2020) suggest that teachers' experiences with the medication used to treat ADHD have a positive effect on their attitude towards learners with ADHD (Braude & Dwarika, 2020). Teachers in this study argue that the medication is effective in treating symptoms of ADHD. In their opinion, the necessary social, educational and emotional interventions need to be in place to allow full inclusion of learners with ADHD in the classroom environment. Additionally, Braude and Dwarika (2020) conclude that teachers' experience of collaboration between parents in the home environment and teachers in the school environment have an

important effect on the manner in which teachers can and are able to offer support to learners with ADHD.

#### *2.7.2.4 Teachers support strategies with regard to learners with ADHD*

Teachers of learners with ADHD often work in more challenging environments than teachers who do not teach learners with ADHD (Lavian, 2015). Teachers often have to provide environments and support strategies that will support the individual learning needs and abnormal traits of learners with ADHD (Lavian, 2015). Amarachi et al. (2018) investigated the learning support strategies that teachers used for learners with neurodevelopmental disorders (including ADHD). Their study indicated that teachers introduced various support methods, such as cooperative and peer learning, grouping according to ability, visual aids and curriculum differentiation. By making use of these support aids, the teachers were able to provide the assistance required by the learners to learn (Amarachi et al., 2018). During the school year, teachers can also offer acceptance and support that will have a positive impact on the performance of the learners in their class (Amod et al., 2013).

Lawrence et al. (2017) examined teachers' experiences and perceptions of learners with ADHD and found that educators used a wide variety of intervention support strategies. These strategies include using positive collaborations, redirecting behaviour, sharing consequences with the learners, lessening distractions and introducing multiple techniques of instruction (Lawrence et al., 2017). The same study suggested that teachers who adopted a flexible approach– such as allowing learners to move around during the lesson – found that learners were able to focus their attention for longer and they were less distractible (Lawrence et al., 2017).

The following section deals with the impact that teachers may have on learners with ADHD and their career choices.

### **2.7.3 Teachers' impact on learners with ADHD and their career choices**

#### *2.7.3.1 Attending to learners with ADHD who make idiosyncratic career decisions*

Individuals with ADHD are faced with numerous challenges that can play a role in their workplace and career choice making (Van Wijk, 2019). The transition between school and career trajectories for learners with ADHD may be more difficult and unique than for their counterparts who do not have ADHD (Dipeolu, 2010).

Many skills taught in school, such as reading, writing, organising, meeting deadlines and being attentive in meetings are the types of skills that learners with ADHD may struggle with during their transition from school to career life (Nadeau, 2016). Teachers play an important role in helping them to develop and master these skills that enhance their performance in the workplace (Dipeolu et al., 2013). According to Mahar and Chalmers (2007), the behaviour that accompanies ADHD is often first identified by teachers in the school environment and inside the classroom. This may suggest that teachers play a valuable role in the beginning stages of ADHD diagnosis and that their knowledge and understanding of the symptoms of ADHD are quite important.

Difficulties with school-related skills such as writing, following orders, reading, and information processing may influence the manner in which learners with ADHD make career decisions (Dipeolu et al., 2013). In view of the probable influence of ADHD symptomology on work-related performance, dealing with such barriers could ensure that learners with ADHD make a proper transitioning from school to career and succeed in their occupational journey (Dipeolu, 2010).

Researchers (Schoeman & de Klerk, 2017; Van Wijk, 2019) suggest that there are a lack of adequate support services available for individuals with ADHD in South Africa. So far, only a few studies have focused specifically on career development interventions for adolescents with ADHD (Brooks, 2016; Dipeolu, 2010; Royal et al., 2015; Tomevi, 2013; Weynandt & DuPaul, 2013). Research that has been conducted mainly involves career counsellors, psychologists and experts in the field, and most have been conducted internationally (Bahny & Dipeolu, 2012; Brooks, 2016; Dipeolu, 2010; Dipeolu et al., 2013; Kuriyan et al., 2012; Weynandt & DuPaul, 2013). In South Africa, there is a lack of career intervention strategies aimed specifically at learners with ADHD. ADHD and its symptoms should be recognised and considered when a career choice is made so that the potential effects of the disorder can be minimised (Gray, 2009).

#### *2.7.3.2 Positive impact of teacher support on learners' career choice decisions*

Research has suggested that teacher support has an impact on learners' career choices (Mittendorff et al., 2011; Zhang et al., 2018). Hence, professionals who work within the school environment (such as teachers) may be familiar with the impact of ADHD on learners and may potentially add to the knowledge about ADHD and

career choices (Dipeolu, 2010). Zhang et al. (2018) found that learners who receive more teacher support report better career expectations and experience fewer difficulties in accomplishing educational aspirations and meeting career-related targets.

According to Watters (2010), school learners recognised specific teacher traits as supportive of their prospective career trajectories. Teachers who were passionate and knowledgeable in their field, who created enjoyable learning experiences and who maintained good classroom management were some of these traits that influenced learners' career interests. Mittendorff et al. (2011) believe that teachers who have conversations about a future career with their learners are an important part of career guidance, as they help learners to reflect and construct meaning about their future careers. In Dipeolu's (2015) opinion, it may be especially beneficial to learners with ADHD if their teachers had conversations with them about careers, as the latter would be familiar with the impact that ADHD may have on the learners' decision making. Lastly, Zhang et al. (2018) propose that the individualised support received from teachers regarding career-related choices could be beneficial and advantageous to the learners with ADHD during their career decision-making process.

## **2.8 THEORETICAL AND CONCEPTUAL FRAMEWORK**

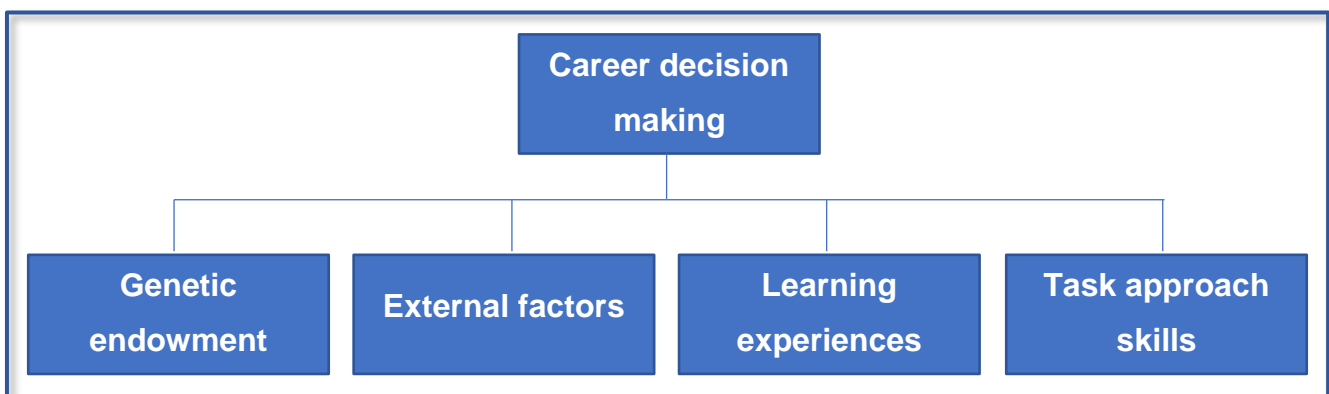
### **2.8.1 Krumboltz' social learning theory of career decision making**

The researcher utilised a conceptual framework based on Krumboltz's social learning theory of career decision making (Krumboltz, 1994; Krumboltz et al., 1976). This framework provides a structured, comprehensive approach to understanding the complex nature of how ADHD may influence career decision making. Krumboltz's social learning theory also constitutes the conceptual framework of the study as it puts forth an understanding of career decision making based on the four factors discussed below (Saint-Ulysse, 2017). Each factor considered in the theory influences career decision making in a unique manner (Saint-Ulysse, 2017) (see Figure 2.1).

Krumboltz' social learning theory of career decision making (1994) suggests that individuals learn in different ways during their lifetimes and what they learn, will influence their career decision making (Stead & Watson, 2017; Saint-Ulysse, 2017). The theory emphasises the career decision-making process and focuses on the distorted ideas and beliefs that individuals may hold with regard to this process (Stead & Watson, 2017; Saint-Ulysse, 2017). The social learning theory of career decision

making considers the way in which the four factors shown in Figure 2.1 influence career decisions (Arsalan, 2018). These factors are believed to be relevant and unique, especially with regard to learners with diagnosed ADHD (Arsalan, 2018).

The first factor – genetic endowment and special abilities – recognises the traits that can influence career decision making in a way that is especially relevant to learners with ADHD, as the disorder has been known to have a genetic inheritability rate (Cortese, 2012; Sprich et al., 2000; Stead & Watson, 2017). The second factor involves the external conditions and events that may influence career decision making, such as the environment to which an individual is exposed. Although ADHD has been shown to have a genetic component, it is also linked to certain environmental conditions that can influence the way in which ADHD manifests (Cortese, 2012; Krumboltz, 1994; Krumboltz et al., 1976). Thirdly, career decision making is influenced by individual learning experiences. Therefore, the learning experiences that a learner with ADHD has, may influence career decision making (Stead & Watson, 2017). Lastly, career decision making is influenced by the task approach skills that individuals have developed or acquired throughout their lives and that can be used when making career decisions (Krumboltz, 1994; Krumboltz et al., 1976).



**Figure 2.1:** Diagram of Krumboltz’s social learning theory of career decision making (based on the work of Krumboltz (1994) and Krumboltz et al. (1976))

### 2.8.1.1 Genetic endowment and special abilities

The first factor – genetic endowment and special abilities (Stead & Watson, 2017) – refers to the qualities one is born with. Krumboltz believed that these qualities play an important part in role in the way career choices are made (Stead & Watson, 2017).

### **2.8.1.2** *External conditions*

The second factor considered in Krumboltz's theory (1994) involves the environmental conditions and events that may impact career decision making (Stead & Watson, 2017; Saint-Ulysse, 2017).

### **2.8.1.3** *Learning experiences*

Learning experiences influence the career decision-making process of an individual in an instrumental or associative manner (Saint-Ulysse, 2017). Instrumental learning experiences are the outcome of responses to events or the result of observing the responses of other people (Stead & Watson, 2017). The career decision-making process is influenced by how much these learning experiences have been strengthened, as well as the genetic abilities of the individual (factor one) (Stead & Watson, 2017). Associative learning experiences (linked to positive or negative associations with certain situations) can be seen as a form of conditioning that affects individuals in their career development (Stead & Watson, 2017).

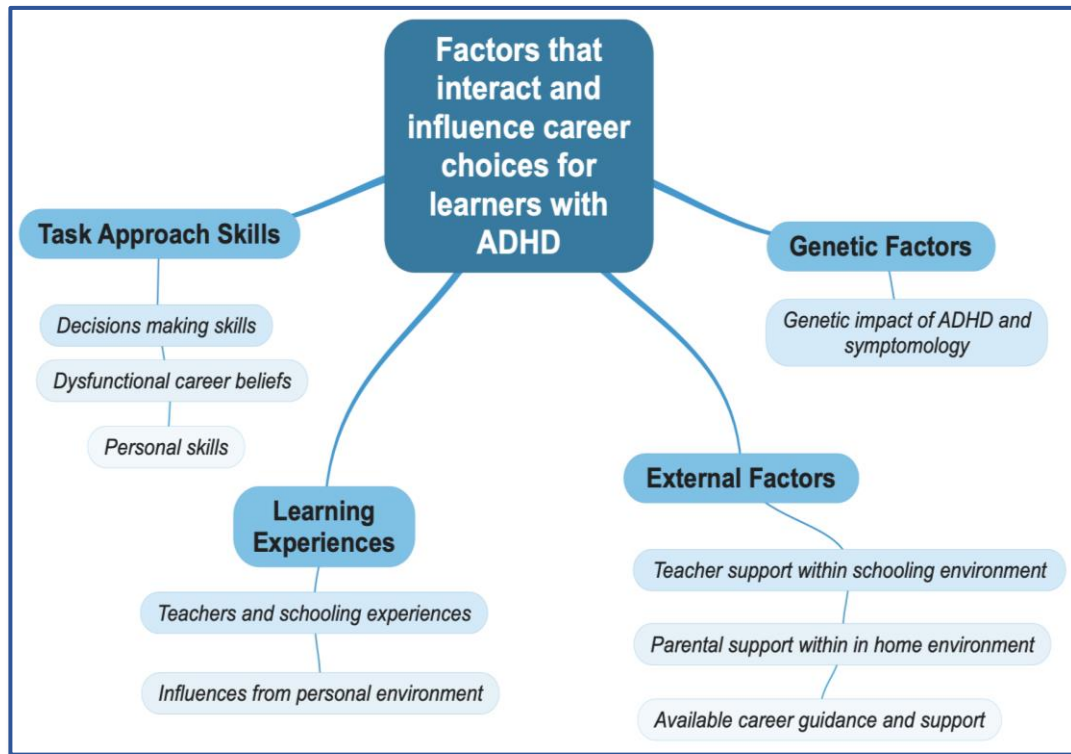
### **2.8.1.4** *Task approach skills*

The fourth factor considered by Krumboltz involves so-called task approach skills, which involve the abilities that the individual has developed and can use to approach career decision making (Stead & Watson, 2017). The skills acquired play an important role in how the individual deals with developmental tasks and approaches and handles challenges (Stead & Watson, 2017). These task approach skills often change once the individual has had greater exposure to different experiences (Saint-Ulysse, 2017).

## **2.8.2 Conceptual framework**

The current study's conceptual framework (see Figure 2.2) of how learners with ADHD are influenced when making career choices is based predominantly on Krumboltz's Social Learning Theory of Career Decision Making (Krumboltz, 1994; Krumboltz et al., 1976).





**Figure 2.2:** Conceptual framework of the current study based on the work of Krumboltz (1994) and Krumboltz et al. (1976).

The conceptual framework shown in Figure 2.2 explains the problems that individuals with ADHD have with regard to making a career choice, and it recognises the genetic impact of having ADHD. It also shows the way in which external factors, learning experiences and task approach skills can influence career choices (Brooks, 2016; Dipeolu, 2010; Krumboltz, 1994; Krumboltz et al., 1976).

Studies on the role of genetics and ADHD have noted that children who have parents or siblings with ADHD have an increased risk of developing ADHD (Cortese, 2012; Sprich et al., 2000). The results of some genetic studies suggest that ADHD has a heritability rate of between 60-75% (Cortese, 2012; Sprich et al., 2000). This means that the prevalence of ADHD is quite high and the often-debilitating symptoms of ADHD can have a negative impact on career choices for learners with ADHD (Brooks, 2016; Dipeolu, 2010).

According to Cortese (2012), genetic traits often interact with external factors, which may increase the symptoms associated with ADHD. Research conducted by Cortese (2012) and Sprich (2000) indicates that, although having ADHD has been associated with genetic factors, external factors also contribute to the prevalence rate and symptomology of ADHD. Research has found that external factors such as teacher support within the schooling environment and parental support within the home environment may play an important role in the lives of learners with ADHD and

the career choices they make (Mittendorff et al., 2011; Zhang et al., 2018). Other external factors such as available career guidance and support that meet the unique needs of learners with ADHD could also have a significant impact on the way that these learners make career choices (Schoeman & de Klerk, 2017; Van Wijk, 2019).

Learning experiences may well interact with the preceding factors and have an influence on the career choices that learners with ADHD make (Watters, 2010). Experiences provided by teachers in the schooling environment have been shown to have an effect on learners with ADHD when deciding on their career trajectories (Dipeolu et al., 2013, Mahar & Chalmers, 2007, Nadeau, 2016). Having experienced difficulties with academic work and to master specific skills such as reading and writing may influence learners with ADHD when making a career choice (Dipeolu, 2010; Nadeau, 2016). Learning experiences gained (or suffered) within these learners' personal environments (home or social) also interact with and shape their career decisions – whether in a positive or negative manner, depending on the individual's genetic factors and the external factors that affect their lives (Dipeolu et al., 2013, Mahar & Chalmers, 2007, Nadeau, 2016, Stead & Watson, 2017).

Task approach skills involve the individual skills that a learner with ADHD has mastered, for instance the ability to make decisions. Dysfunctional career beliefs are changed and shaped as the learner with ADHD goes through various learning experiences (Dipeolu et al., 2013, Gati et al., 1996; Morgan & Ness, 2003, Stead & Watson, 2017). Task approach skills are improved when learners with ADHD are exposed to experiences such as guidance from a teacher or positive support within the school or home environment (Dipeolu et al., 2013, Gati et al., 1996; Morgan & Ness, 2003, Stead & Watson, 2017). Personal skills developed by learners with ADHD as a result of specific learning experiences may also impact their career choices.

Research shows that the factors mentioned above have an impact on the way in which individuals with ADHD make career decisions (Brooks, 2016; Dipeolu, 2010; Stead & Watson, 2017). The conceptual framework in Figure 2.2 therefore serves as an appropriate guide for the focus group interview questions that aim to determine how the four factors influenced career decision making among individuals with ADHD. Moreover, Krumboltz's social learning theory of career decision making (1994) guided the researcher to identify and ask for clarification on certain responses during the focus group interview. Furthermore, the conceptual framework was used in the data analysis

process to uncover suggested themes. This led to a more in-depth understanding of teachers' viewpoints on how ADHD may influence learners' career choices.

## **2.9 CHAPTER SUMMARY**

Chapter 2 gave a brief overview of ADHD based on the educational outcomes associated with ADHD. The emotional and social risks associated with ADHD were outlined and the effect of ADHD on adolescents was discussed. The literature review went on to examine the role that teachers play in the career decisions made by learners with ADHD. The career implications for learners with ADHD, as well as the effects of career decision making on learners with ADHD were also discussed.

The conceptual framework of the current study – Krumboltz's social learning theory of career decision making – emphasised the multifaceted nature of ADHD's influence on career choice making.

Chapter 3 next discusses the research approach, the method used for data gathering, as well as the analysis and interpretation of the data. The ethical issues considered by the researcher and the quality criteria to be met by the study are also defined.

## **CHAPTER 3: RESEARCH DESIGN AND METHODOLOGY**

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### **3.1 INTRODUCTION**

Chapter 3 presents the underlying methodological and meta-theoretical paradigms that directed the present research study. Additionally, it describes the research methodology, the research design, and the methods used for case selection and participant selection. The chapter goes on to outline the procedures that were used for data gathering and data documentation. The data analysis and interpretation are discussed by examining both the justification for choosing the approach and criticism levelled at the approach. Chapter 3 concludes by outlining how the criteria for trustworthiness were met and the ethical considerations for the present study were addressed.

### **3.2 RESEARCH PARADIGM AND RESEARCH APPROACH**

The next section discusses the methodological and metatheoretical paradigms that underpin the current study. A case study design was used, which followed a qualitative methodological as well as an interpretivist meta-theoretical paradigm.

#### **3.2.1 Meta-Theoretical-Paradigm**

In this study the researcher made use of interpretivism as the meta-theory to guide the study. In the interpretivist paradigm, knowledge about reality is seen as internally constructed from individual experiences and social interactions within the life world (Maree, 2019). Therefore, interpretivism is used to comprehend phenomena from an individual's point of view, as the world can only be meaningfully understood from the perspective of the individual who is participating in it (Creswell & Creswell, 2018; Scotland, 2012). To implement interpretivism in a research study, the individual interpretations are obtained and realised through interactions and exchanges between the research participants and the researcher (Guba & Lincoln, 1994; Scotland, 2012).

The next section deals with the ontological and epistemological assumptions of interpretivism. It is followed by a section on the criticism levelled at interpretivism and how this was addressed in the current study.

### 3.2.1.1 *Ontological and epistemological assumptions of interpretivism*

Ontology is defined as the way in which an individual views and understands their reality. It refers to what is and can already be known (Grix, 2004; Maree, 2019). Ontology aids the researcher to identify how accurate they are about the nature of the research they are conducting (Moon & Blackman, 2014) – for example, what does a researcher claim as the true reality and how does a researcher manage various opposing ideas of reality (Moon & Blackman, 2014).

Ontological assumptions for interpretivists involve the belief that reality is subjectively constructed by the meaning and understanding of social interactions (Cohen & Crabtree, 2006; Yin, 2016). The researcher using this paradigm tries to understand social phenomena by deducing the meaning and significance that individuals attribute to experiences, rather than to offer an objective explanation of a phenomenon (Mack, 2010). The interpretivist paradigm acknowledges the culture and context of the participants, which may lead to a deeper appreciation and understanding of the studied phenomenon (Wills, 2007).

Interpretivism recognises the value of subjectivity and understands the importance of multiple experiences and viewpoints. This in itself can lead to a profound understanding of the social behaviour to be studied (Creswell & Creswell, 2018; Scotland, 2012). By making use of an interpretivist approach, the researcher was able not only to describe human behaviour, but also to understand it in a deeply social context (Creswell & Creswell, 2018). The findings that were obtained resulted from interactions between and interpretations by the researcher and participants, which helped to establish rigour (Creswell & Creswell, 2018).

Epistemology refers to the way knowledge is studied and understood (Denzin & Lincoln, 2005) and guides the researcher by shaping how they uncover knowledge (Moon & Blackman, 2014). Epistemological inquiry studies the connection between the participant and the way in which they meaningfully make sense of their reality (Denzin & Lincoln, 2005). Interpretivists argue that they subjectively understand the meaning associated with the social experience and the development of knowledge. Grix (2004) adds that the researcher should always value the individual human experience.

Interpretivist researchers investigate a real-life phenomenon without directing, influencing, or manipulating the phenomenon being studied (Tuli, 2010). The

interpretivist inquiry affords a rich understanding of the research phenomenon and provides knowledge within unique circumstances and experiences (Mack, 2010).

Interpretivism was implemented as a research paradigm to guide the current study (Merriam, 1998). This strategy was surmised to be beneficial in the current study because the interpretivist approach focuses on understanding the world by interacting with individuals to gain their personal viewpoints based on first-hand experience (Merriam, 1998). The interpretivist approach allowed for interaction with the participants to acquire an in-depth understanding of their perspectives about the research phenomenon (Creswell & Creswell, 2018). Thus, during the research process, layers of meaning and understanding of behaviour were discovered and actions were explained from the participants' viewpoint (Creswell & Creswell, 2018; Guba & Lincoln, 1994; Scotland, 2012). The following section discusses the different points of criticism levelled at interpretivism and how these were addressed.

### *3.2.1.2 Criticism of interpretivism and how it was addressed*

Interpretivism as an approach has been criticised for the value placed on subjectivity, as this leads to the research outcomes inevitably being influenced by the researcher's own beliefs, understanding and ways of thinking. Another point of criticism relates to the possibility of neglecting the external powers that influence behaviour, such as the work environment, culture, and prejudices (Cohen et al., 2005; Scotland, 2012).

Interpretivist researchers acknowledge that their personal values and belief systems may influence the way they interpret the research findings (Mack, 2010). The interpretivist researcher nevertheless maintains that they can objectively collect and treat the data when they acknowledge their assumptions (Mack, 2010). They must also ensure that the collected data reports on the research findings and not on the researcher's presumptions (Mack, 2010).

In the current study, the challenge of the researcher being influenced by personal beliefs and experience was offset in the keeping of a research journal, which allowed for reflection on the research outcomes, potential biases, criticisms, and assumptions associated with the study. Furthermore, the researcher was guided by her supervisor throughout the research process, which provided an additional source of reflection and guidance to deter any potential challenges and biases.

### **3.3 METHODOLOGICAL PARADIGM: QUALITATIVE RESEARCH**

The current study adopted a qualitative research methodology, namely an inquiry approach in which the researcher shapes an intricate universal picture, studies words, reports comprehensively on the views of participants, and performs the study in a natural setting (Creswell & Creswell, 2018; Maree, 2016). The research questions are often wide-ranging and broad as they try to understand the participants' viewpoints and experiences (Creswell & Creswell, 2018; Maree, 2016). The final research report is written in a way to allow the voices of the participants to be heard, to display the flexibility of the researcher, and to provide an intricate interpretation of the phenomenon (Creswell J. W., 2007).

An advantage of qualitative research is that the emphasis is placed on comprehending and describing the phenomenon, which offers the researcher the opportunity to examine the individual knowledge and experiences of study participants (Maree, 2016). Additionally, this approach provides an in-depth look at the meaning making of the participants (Creswell J. W., 2007).

Several basic characteristics of qualitative research are considered by Creswell and Creswell (2018). The first characteristic involves the tendency for qualitative researchers to collect data within natural settings (Creswell & Creswell, 2018). This implies that data is generally collected within the context where the participants experience the research problem being studied (Creswell & Creswell, 2018).

The second characteristic of qualitative research is that the researcher is the key instrument in the research process. This means that the qualitative researcher collects their own data through the process of studying documentation, observing participants and conducting in-depth interviews with the participants (Creswell & Creswell, 2018).

The third characteristic of qualitative research is that the research is generated and gathered using multiple sources instead of a single source of data. Qualitative researchers evaluate and organise the data by means of codes and themes that emerge from the various sources of data (Creswell & Creswell, 2018). The themes and codes are normally generated inductively by means of a bottom-up approach (Creswell & Creswell, 2018). The researcher then deductively re-evaluates the themes – to determine if the evidence supports the theme, or to establish if further data is necessary (Creswell & Creswell, 2018).

Qualitative research is centred around the meaning that participants make of and possess about the research phenomenon. This fourth characteristic of qualitative research suggests that rather than focusing on the researcher's preconceived ideas or the available literature, the qualitative researcher focuses on the meaning making of the participants (Creswell & Creswell, 2018).

A fifth characteristic of qualitative research is that it requires the researcher to reflect on how their personal beliefs, culture, values, and background may influence the research process and the interpretation of the data (Creswell & Creswell, 2018).

Qualitative research furthermore employs an emergent design, which indicates that the preliminary research plan may need to be adapted once the researcher begins to collect data (Creswell & Creswell, 2018). As the qualitative researcher aspires to offer a holistic account of the research phenomenon (Creswell & Creswell, 2018), multiple viewpoints need to be considered and various factors must be understood (Creswell & Creswell, 2018).

The characteristics considered by Creswell and Creswell (2018) highlight the advantages and justification of the qualitative paradigm. However, the qualitative approach may also cause various limitations to a study (Maree, 2016). One of these limitations is the data that is collected is subjective by nature and unique to the individual (Cohen et al., 2005). This indicates that there is the potential for both response bias and researcher bias (Shah, 2019). In addition, due to the uniqueness of the research collected, the findings of qualitative research cannot be generalised (Creswell & Creswell, 2018).

In addressing the limitations as mentioned, the researcher made use of a research journal and sessions with her supervisor served as sources of reflection and guidance to manage researcher bias. Furthermore, she used member checking to acquire accurate descriptions and interpretations from the participants (Guba & Lincoln, 1994).

### **3.4 RESEARCH DESIGN**

The research design employed in the current study was a single and exploratory instrumental case study. Instrumental case studies make use of a case in order to understand the phenomenon better (Universal Class, 2022). Exploratory case studies explore circumstances where the phenomenon that is being studied does not have a defined outcome (Baxter & Jack, 2008; Maree, 2016). Exploratory case studies



involve research questions that aim to find out what can be learnt about a particular topic (Putney, 2012).

A case study is an inquiry approach that examines the research phenomenon within its specific context (Merriam, 1998). A case study that uses qualitative methodology provides a useful frame for a researcher to study a complicated phenomenon (Baxter & Jack, 2008). The case study method helps the researcher to answer questions while considering how the phenomenon may be influenced by the context within which it is positioned (Baxter & Jack, 2008). A case study design allows the researcher to understand and examine a phenomenon in detail within a real-life context (Yin, 2016). The case study is suitable within an interpretivist research paradigm as it is an inquiry method that investigates research participants within their personal social contexts (Yin, 2009). The value of a case study is that it represents unique research accessible in individual circumstances (Yin, 2016). In the current study, the researcher explored teachers' viewpoints on how ADHD may influence learners' career choices. An exploratory case study was therefore an appropriate design.

Using an exploratory case study allowed the researcher to obtain information from the teachers while considering the context that probably influenced the teachers, such as the school environment (Streb, 2012). Additionally, it allowed me the flexibility to gather in-depth ideas and viewpoints on the topic from the teacher participants (Streb, 2012).

The exploratory case study approach allowed me to form a relationship with the participants (Maree, 2016), to explore the teachers' accounts and viewpoints within a real-life context, and to describe how ADHD may influence affected learners' career choices (Zainal, 2007). The purpose of the current study was to gain a detailed understanding of teachers' viewpoints of how ADHD may influence their learners' career choices. The researcher therefore reported the findings of her research by providing in-depth details and concentrated descriptions (Baxter & Jack, 2008). The in-depth details and descriptions should allow readers to apply the findings within various contexts (Baxter & Jack, 2008).

A challenge that is commonly ascribed to case study design is that the lesser sample size limits the generalisability of the research findings (Putney, 2012; Yin, 2009; Yin, 2016). This challenge appears because the findings are considered applicable only within a particular context and for the specific phenomenon (Zainal,

2007). However, for the current study generalisation was not intended to be the purpose. Instead, the researcher wished to deliver a comprehensive, thorough understanding of teachers' viewpoints of how ADHD may influence their learners' career choices. Additionally, assisted by suitable supporting research and proper analysis, the findings obtained from a case study may be used as a base to support evidence, to conduct further research, and to make appropriate generalisations (Timmons & Cairns, 2012).

### **3.5 SELECTING THE RESEARCH SITE AND RESEARCH PARTICIPANTS**

In the current study, purposive selection was used to select the participants. Purposive selection is used extensively in qualitative research to recognise and select cases and participants that are saturated with information related to the phenomenon being investigated (Palinkas et al., 2015). The research site as well as the participants were selected purposively, as this allowed the researcher to identify and select specific cases and participants that were markedly well-informed regarding the research phenomenon (Palinkas et al., 2015).

A high school in the Pretoria area was chosen purposively as the research site, due to the requirements of the research problem as well as the school's accessibility to the researcher. Furthermore, the particular high school was selected since it caters specifically for learners with different needs and (more especially for this study) for learners who have ADHD. It was also assumed that teachers who teach at this school would have the required knowledge to give valid viewpoints on how ADHD may influence learners' career choices.

The five participants in this study were also selected purposively as their expertise aided the researcher to gain a detailed and in-depth understanding of the research problem (Creswell, 2007). Purposive selection added value to this study because the teachers were chosen specifically for their knowledge and experience. The teachers met the following criteria:

- ❖ They were voluntary participants who provided informed consent.
- ❖ They were able to converse in English.
- ❖ They taught Grade 11 and Grade 12 learners.

The use of purposive selection in this research design was beneficial as it offered the researcher flexibility, saved the researcher time and was less expensive

(Creswell & Creswell, 2018). Additionally, the use of purposive selection for the current study provided participants the relevant knowledge and viewpoints with regard to the research problem.

Making use of purposive selection does however pose certain challenges that should be acknowledged. These challenges include the research process becoming vulnerable to researcher bias and the level of representativeness of the participants becoming difficult to support, as the selection of the participants is subjective (Sharma, 2017). To avoid these potential challenges, the researcher made use of member checks. She submitted the data to participants to check the accuracy of results and to confirm whether their experiences agree with the data analysis. She also remained aware of the potential for researcher bias and detailed her observations and reflections in a research journal. Furthermore, the researcher was in continuous collaboration with her supervisor which allowed for reflection and clarification throughout the research process (Maree, 2016).

### **3.6 DATA GATHERING**

In this study, data was generated by means of semi-structured focus group interviews with the participants. Interviewing is a data-gathering method where the researcher asks open-ended questions to discover the beliefs, thoughts and viewpoints of the participants (Maree K., 2019). Semi-structured interviews are flexible and varied. Predetermined open-ended questions are asked using a conversational style, which allows for relaxed discussions between the researcher and the participants (Given, 2008).

Using semi-structured focus group interviews in this study was beneficial as it allowed the gathering of well-defined, in-depth viewpoints from the teachers (Maree K., 2019). The researcher developed a question guide prior to the commencement of the interviews (see Addendum 3 for a copy of this interview guide). The question guide contained the research questions and was based on the underlying conceptual framework of the study (Given, 2008). Furthermore, the focus group interviews with the teachers were conducted in a group context and lasted about 90 minutes. During the interviews, the researcher encouraged the teachers to answer the questions truthfully but took care not to elicit specific responses so as to avoid researcher bias (Given, 2008). After obtaining consent from the participants, she used an audio-recording device to allow for the transcription of a verbatim record and to ensure that

all interview content was well preserved for analysis (Merriam & Tisdell, 2016). The following six questions outlined in the interview guide were used to guide the focus group interview:

- ❖ Explain your role in general in providing career guidance to your learners with ADHD?
- ❖ What challenges do these learners face when making career choices?
- ❖ How does ADHD influence these learners' career choices?
- ❖ What factors play a role when learners who have ADHD are making career choices?
- ❖ Which educational outcomes have an impact on career choices for these learners?
- ❖ How does one overcome the challenges that may influence the career choice making of learners with ADHD?

### **3.7 DATA DOCUMENTATION**

For the present study, data was documented in a transcript of the interview's audio recording (for analysis and observations), as well as in a research journal (for reflection).

The journal that was kept by the researcher throughout the study was used to preserve her opinions, views and feelings during the research process (Given, 2008). The journal allowed for transparency with regard to the researcher's own influence on the research process. This transparency served to control researcher bias because the journal made the researcher's role within the research process accessible to the reader (Given, 2008). The journal also allowed the researcher to make meaning of the data that had been collected.

Participants' consent was obtained to record the interview and so to obtain a verbatim record of what was said. The transcript was compared to the original recording to ensure its accuracy (Braun & Clarke, 2006). The transcript not only allowed ease of understanding and data analysis (Braun & Clarke, 2006), but also added to the credibility of the study (Merriam & Tisdell, 2016). Moreover, the recording enabled the researcher to fully engage with the participants throughout the interview process (Merriam & Tisdell, 2016).

Observation is an important research tool that is used to address specific research questions and to produce trustworthy results (Merriam & Tisdell, 2016). This

is because an observer is typically an outsider who might notice aspects that the participants are accustomed to, and these aspects may result in a deeper understanding of the research phenomena (Merriam & Tisdell, 2016). In the current research study, the audio recording allowed the researcher to observe the interviewees. This guided her to identify any potential biases and develop further meaning associated with the data collected (Sharma, 2017).

### 3.8 DATA ANALYSIS

The study in hand made use of inductive thematic analysis to interpret and analyse the gathered data. Inductive thematic analysis is a ‘bottom-up’ approach in which the identified themes are linked directly to the data (Braun & Clarke, 2006). Using the inductive thematic analysis as method involves the identification of themes and trends that emerge from the data and that are crucial to the research phenomenon. This is done by thoroughly reading and rereading the data (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006; Saldaña, 2013).

The researcher used an inductive thematic analysis approach which begins with examining the data and looking for meaningful themes, and concludes with reporting on the meaning of the themes that transpire from the data (Braun & Clarke, 2006; Creswell & Creswell, 2018). The researcher worked and reworked these themes and the data until an established comprehensive set of themes was apparent (Creswell & Creswell, 2018). Braun and Clarke (2006) identified six phases of analysis that are used to perform an inductive thematic analysis for this study. The six phases of analysis as set out by Braun and Clarke (2006) and the procedures followed by the researcher are explained in Table 3.1.

**Table 3.1:** Six phases of inductive thematic analysis (Braun & Clarke (2006))

PHASE OF ANALYSIS	THE PROCEDURE FOLLOWED
<p><b>1. Becoming familiar with the data</b></p>	<p>Being present at the focus group interviews provided prior knowledge of the data for the researcher.</p> <p>Transcribing the focus group interview helped her to become familiar with the different views and concepts contained within the data.</p> <p>The researcher thoroughly immersed herself in the data by repeated reading of the transcripts while looking for initial significant patterns.</p>

PHASE OF ANALYSIS	THE PROCEDURE FOLLOWED
<b>2. Generating initial codes</b>	The researcher detected and labelled initial codes. She began to organise various ideas and patterns that frequently occurred across the data.
<b>3. Searching for themes</b>	The researcher arranged several codes under possible themes. By considering codes and integrating them, she identified overall themes.
<b>4. Reviewing themes</b>	The researcher refined and reviewed the themes to make coherent patterns. She repeatedly reread the data to ensure the relevancy of the identified themes.
<b>5. Defining and naming themes</b>	The researcher described and refined the themes to understand the core of the identified theme. She identified subthemes. She conducted a thorough analysis of each theme that emerged to understand the overall narrative of the data. She classified and described the themes by name.
<b>6. Producing the report</b>	The researcher identified and analysed some interesting extracts from the data. She consulted an external coder to enhance the interrater validity. The external coder confirmed perusal of the data and agreed with the themes and subthemes identified <sup>1</sup> . A final analysis of the themes was conducted by the researcher. She analysed the narrative of themes and connected them with the research questions. The researcher verified the data analysis by performing member checks and consulting with her supervisor.

Using an inductive thematic analysis in this study proved to be a suitable method for identifying the key themes from the teachers' viewpoints of how ADHD may influence their learners' career choices, and for assigning meaning to these themes (Braun & Clarke, 2006). This process of analysis allowed the findings to be recorded in depth and with rich details set out in a well-defined and precise manner – all of which contributed to the trustworthy and transferability of the results (Creswell & Creswell, 2018). Inductive thematic analysis was useful as a method of searching for themes in the data based on the research questions, the literature review as well as the conceptual framework of the study (Saldaña, 2013).

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<sup>1</sup> See Appendix A – Letter from external coder.

### **3.9 TRUSTWORTHINESS OF THE STUDY**

In qualitative research, trustworthiness is vital as it addresses the thoroughness within a given research study. In the current study, the researcher adhered to the five criteria put forward by Lincoln and Guba (1981) to ensure rigorous research results: confirmability; authenticity; credibility; transferability; dependability. The following section includes descriptions of the criteria and discusses the way in which the researcher addressed the criteria to ensure trustworthiness of the study.

#### **3.9.1 Confirmability**

In qualitative research, confirmability may be considered comparable to what, in quantitative research, is described as the ability of the researcher to remain objective (Shenton, 2004). The researcher's ability to meaningfully reflect throughout the research process can aid confirmability of the results (Thomas & Magilvy, 2011). This can be achieved by making use of a research/reflection journal and allowing the participants to lead without being influenced by the researcher (Thomas & Magilvy, 2011).

In the current research study, the researcher's journal allowed for documented reflections on her personal preferences, preconceived notions and experiences throughout the research process (Shenton, 2004; Thomas & Magilvy, 2011). She also made use of member checks, which aided to confirm that the participants' viewpoints were accurately represented in the research findings. The researcher offered an audit trail by describing the steps taken throughout the research process (Guba & Lincoln, 1994).

#### **3.9.2 Authenticity**

Authenticity refers to a researcher's ability to objectively state various realities and represent the opinions of participants fairly (Guba & Lincoln, 1981).

In the current research study, the researcher's use of an audio-recording device allowed for the documentation of the participants' verbatim responses (McMillan & Schumacher, 2010). Member checks served to validate that participants' viewpoints had been correctly represented (McMillan & Schumacher, 2010). The researcher reflected on her own position throughout the research process and documented her thoughts in a research journal (McMillan & Schumacher, 2010).

### **3.9.3 Credibility**

Credibility is associated with dependable and accurate findings and conclusions that correctly embody the view of the participants in the research study (Guba & Lincoln, 1994; Thomas & Magilvy, 2011). Credibility suggests that the research findings are in line with reality (Merriam & Tisdell, 2016; Thomas & Magilvy, 2011).

The researcher attempted to ensure credibility by engaging in rapport building with the participants and promoting authentic responses during the focus interviews. Additionally, she made making use of member checking to ensure that the research findings supported the viewpoints of the participants (Shenton, 2004). To guarantee candid information from voluntary participants, the researcher permitted the participants to withdraw their participation at any stage of the study (Shenton, 2004; Willig, 2008).

To avoid the potential for researcher bias when considering the research findings, the researcher made use of a journal that allowed deep reflection on the findings (Baxter & Jack, 2008; Creswell J. W., 2007). She also held consultation sessions with her supervisor, which reduced the potential for bias in the findings. Furthermore, the gathered data was represented in a systematic manner based on extracts from the data as well as the researcher's journal (Braun & Clarke, 2006).

### **3.9.4 Transferability**

Transferability refers to the ability of the research findings to yield comparable results when applied in other contexts or studies of a similar nature (Shenton, 2004; Thomas & Magilvy, 2011). According to Baxter and Jack (2008), the descriptions in a research study should allow the reader to extract their own inferences concerning the applicability of the research results. These descriptions should incorporate sufficient information on the participants' contextual circumstances and background to allow the reader to gauge the appropriateness of the research findings (Thomas & Magilvy, 2011; Willig, 2008).

The researcher used her reflection journal to establish transferability which made the research process more transparent. She also presented comprehensive and in-depth descriptions of the research phenomenon (Guba & Lincoln, 1994). Furthermore, it may be worth mentioning that the researcher made use of purposive



selection which consisted of descriptive inclusion criteria for the participants (Guba & Lincoln, 1981).

### **3.9.5 Dependability**

According to Bitsch (2005), a study's dependability is its ability to produce comparable findings if it is repeated. The dependability of a qualitative research study can be improved by presenting thorough descriptions of the research process that have been meticulously documented and that can be consistently traced (Guba & Lincoln, 1981; Shenton, 2004; Willig, 2008). Such description will afford other researchers the ability to repeat the research study (Shenton, 2004; Thomas & Magilvy, 2011).

In the current study, the researcher used her research journal to reflect on the research process and to document her thoughts, feelings and understandings. Additionally, she participated in ongoing discussions with her supervisor throughout the research process to assist her in her efforts to enhance the dependability of the study. An audit trail was preserved in the form of a journal that documented the course of the research study (Guba & Lincoln, 1981). The focus group interview was documented in a verbatim transcript record that provided the actual responses of the participants.

## **3.10 ETHICAL CONSIDERATIONS**

Prior to the commencement of a study, the researcher must comply with various guidelines to meet and uphold the set ethical standards (Creswell & Creswell, 2018). The researcher must thoroughly understand and abide by the relevant professional standards associated with their research (Creswell & Creswell, 2018). In the current study, the researcher abided by the ethical guidelines prescribed by the University of Pretoria as well as by the Health Professions Council of South Africa (HPCSA).

### **3.10.1 Permission to conduct research, informed consent and voluntary participation**

Before a research study can be started, the researcher should apply to the relevant college or university boards for ethical approval. The researcher should also obtain permission for using a research site and acquire permission from the participants involved in the study (Creswell & Creswell, 2018).

The relevant parties should give their permission in an informed consent letter (Creswell & Creswell, 2018) drafted by the researcher, which outlines the background of the study and how data will be collected. The participants' involvement should be voluntary, and the informed consent letter should confirm that participation is voluntary (Creswell & Creswell, 2018).

Prior to the commencement of the current study, the researcher obtained ethical clearance from the ethical committee of the University of Pretoria. Furthermore, since the research was conducted at a private high school, the researcher had to approach the school principal directly and obtain the necessary permission to conduct the study at this school.

Informed consent was obtained from the study participants in the form of a signed consent letter. In it, voluntary participation was also explained in detail and participants were guaranteed the opportunity to withdraw from the study at any point. This letter also requested consent for an audio-recording device to be used to record the interviews.

### **3.10.2 Respect, integrity, and truthfulness**

The ethical principles of respect, integrity and truthfulness require that decisions made by the researcher are taken in the best interests of the participants (HPCSA, 2016). A researcher should conduct the study with integrity and professionalism while recognising the human rights and autonomy of the participants (HPCSA, 2016). The researcher should show compassion for the participants and be honest and truthful. Additionally, the participants should be treated in a just and tolerant manner throughout the research study (HPCSA, 2016).

The researcher adhered to these principles by maintaining honest and open communication with the participants during the entire research process. She acted with integrity and professionalism, provided all the necessary information about the purpose of the research, and allowed follow-up questions. She always acted in a professional manner and treated the participants fairly and just throughout the research process.

### **3.10.3 Privacy, confidentiality, and anonymity**

According to Allan (2016), the term privacy comprises two dimensions. The first is the right that guards against intrusion and the second is the right to confidentially (Allan, 2016).

The researcher asked the participants' questions that were relevant to the purpose of the research study (Allan, 2016). Furthermore, she never forced the participants to provide answers to her questions and rather encouraged voluntary participation throughout.

The researcher attempted to maintain confidentiality and anonymity by treating all personal and private information with the strictest confidentiality (Allan, 2016). She maintained confidentiality by shielding the personal information and identities of the participants throughout the research study. Once the data had been collected, it was held safe where only the researcher and her supervisor could access it. The participants were assured that their personal information would remain confidential and anonymous. It was known only to the other participants within the focus group, the researcher herself, and her supervisor (Allan, 2016; HPCSA, 2016).

## **3.11 CHAPTER SUMMARY**

Chapter 3 reviewed the methodology used in the present research study. The chapter also presented the researcher's endeavours to address trustworthiness and to comply with the various ethical considerations related to research.

## CHAPTER 4: DATA ANALYSIS AND RESULTS

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### 4.1 INTRODUCTION

The study aimed to explore and describe teachers' experiences of how ADHD may influence learners' career choices. Purposive selection was used to identify five participants – teachers who taught learners with ADHD. The teachers took part in a semi-structured focus group interview that was based on a predetermined interview schedule. The participants were asked to elaborate on their answers and they were encouraged to put forward ideas that they felt were relevant to the focus group interview. The researcher kept a journal in which she documented and reflected upon the entire research experience. The data that had been collected in the focus group interview was recorded and transcribed and subsequently used for data analysis. Chapter 4 presents the findings of the current study according to themes and sub-themes that emerged during the data analysis.

As mentioned on a number of occasions, only one focus group interview (in which all six participants participated) was conducted. All the themes and subthemes discussed below were based on participants' responses to questions posed during this focus group interview and subsequent discussions during the focus group interview. I relate these themes and subthemes that emerged from careful analysis of participants' responses and subsequent discussions during the focus group interview during discussions to existing literature on the topic.

For the reader's convenience, the six questions referred to are repeated below:

- ❖ Explain your role in general in providing career guidance to your learners with ADHD?
- ❖ What challenges do learners with ADHD face when making career choices?
- ❖ How does ADHD influence learners' career choices?
- ❖ What factors play a role for learners who have ADHD when making career choices?
- ❖ Which educational outcomes have an impact on career choices for learners who have ADHD?
- ❖ How are the challenges that may influence learners with ADHD concerning career choices overcome?

In the section that follows the influence of prospective employers will be discussed. The following section presents these themes and sub-themes.

## 4.2 THEMES AND SUB-THEMES

The four broad themes and nine sub-themes that were identified based on an analysis of the data gathered, are outlined in Table 4.1.

**Table 4.1:** Overview of themes and sub-themes

THEME	SUBORDINATE THEMES
<b>Theme 1: Aversion to or fear of specific career choices</b>	Sub-theme 1.1: Fear of academic careers or tertiary education
	Sub-theme 1.2: Aversion to making a career choice due to beliefs of incompetency and lack of self-efficacy
	Sub-theme 1.3: Financial constraints of tertiary education
<b>Theme 2: The influence of medication on career choices for learners with ADHD</b>	Sub-theme 2.1: ADHD medication having a positive influence on career choices
	Sub-theme 2.2: ADHD medication having a negative influence on career choices
<b>Theme 3: The influence of external factors (parents and employers) on career choices for learners with ADHD</b>	Sub-theme 3.1: The influence of parents
	Sub-theme 3.2: The influence of prospective employers
<b>Theme 4: The effect that having ADHD has on career choices</b>	Sub-theme 4.1: Symptoms of inattentive ADHD influencing career choices
	Sub-theme 4.2: Learners with ADHD making career choices of an entrepreneurial nature

### 4.2.1 Procedure for identifying themes and sub-themes

An inductive thematic analysis was used to identify themes and trends that emerged from the focus group interviews (Braun & Clarke, 2006). The researcher first looked for patterns and meaningful themes within the gathered data and concluded by reporting on the themes that emerged (Braun & Clarke, 2006). She used the six steps or phases of thematic analysis as set out by Braun and Clarke (2006) (see Table 3 in Chapter 3) to categorise the data under themes and subthemes.

The next section explains the way in which quotes are identified in this report.

#### 4.2.2 Identifying the source of a quote

The way in which the data from the focus group interview was coded in this report is described below. This description helps the reader to understand and track the source of each quote. The researcher identified nine initial data codes that belong to five categories. These codes enable the reader to find the location of each quote and the description of each group of initial codes is highlighted in a particular colour for ease of reference.

Table 4.2 explains the initial codes and highlights the description of each code in a colour corresponding to the category to which it belongs.

**Table 4.2:** Coding and description of quotes

INITIAL CODES	DESCRIPTION
CO 1.1.1	Fear of academic careers of tertiary education
CO 1.1.2	Aversion to making a career choice due to beliefs of incompetency and lack of self-efficacy
CO 1.1.3	Financial constraints due to the high cost of academic study after school
CO2.1.1	Medication for ADHD having a positive influence on career choices
CO2.1.2	Medication for ADHD having a negative influence on career choices
CO3.1.1	ADHD learners following similar careers to their parents
CO 4.1.1	Symptoms of inattentive ADHD influencing career choices
CO 4.1.2	ADHD learners making career choices that are entrepreneurial or practically orientated
CO 5.1.1	The influence of accommodations provided by the employee on career choices

The initial codes were used in the focus group interview transcripts to identify the source of quotes, along with the specific participant number and various corresponding colours. Once the initial codes and descriptions had been identified, the researcher used the focus group interview transcripts to identify the different quotes and excerpts based on the identified themes and sub-themes. The corresponding colours, participant numbers and line numbers are indicated on the focus group interview transcripts. At the end of each excerpt, the letter P (in brackets) indicates which participant made the specific remark. The letter L indicates the line

reference range, which is also presented in the transcripts. Table 4.3 explains the way in which quotes can be found in the focus group interview transcriptions.

**Table 4.3:** Data referencing and coding system

CODE	PARTICIPANT NUMBER	LINE NUMBER
(P1, L10-13)	1	L10-13

For example, the exact quote from the interview transcription is as follows *...they hide from studies they don't want to, because obviously, it's an issue and so their academics, they start slipping, that obviously, and it affects their self-confidence and I think ADHD itself is just a stigma with kids. And they see that as a barrier straightaway, I've got it that it I am done and it's scary to think that ya* (P1, L10-13).

The next section gives a description of each of the identified themes and sub-themes. The inclusion and exclusion criteria for the various identified themes and sub-themes are discussed. The results are supported by excerpts obtained from the focus group interviews.

#### 4.2.3 Theme 1: Aversion to or fear of specific career choices

Table 4.4 provides a working definition of Sub-theme 1.1 (Fear of academic careers or tertiary education) and explains the inclusion and exclusion criteria applied by the researcher.

**Table 4.4:** Fear of academic careers or tertiary education (Sub-theme 1.1)

WORKING DEFINITION – FEAR OF ACADEMIC CAREERS OR TERTIARY EDUCATION	
The fear of or aversion to the pursuit of an academic career that requires tertiary education is defined as learners with ADHD fearing failure in an academic career or in tertiary studies (Bandura, 2006; Bandura, 1977).	
INCLUSION CRITERIA	EXCLUSION CRITERIA
Any reference made to learners with ADHD having a fear of or aversion to a career that requires tertiary education after high school. Include mention of an academic career path that would require tertiary education at a university or higher education institution.	References made regarding aversion to career choice making, due to a lack of competency or self-efficacy. Include remarks or comments that mention financial constraints caused by attending an academic institution after leaving high school.
Example: <i>... Will I succeed if I (referring to a learner with ADHD) go to university it's going to be too much. I can't study, I can't sit down and study textbooks...</i> (P3, L177-179).	Example: <i>... there's a fear of having a boss or having someone that's going to look over your shoulder. Yes, because what you've experienced is that the manager isn't that positive person that encourages you, a lot of times the manager or the teacher is the person that's willing to reprimand you</i> (P2, L268-271).

The teacher participants were asked to explain their role in general when providing career guidance to their learners with ADHD. They began reflecting on their own experiences of providing career guidance and often mentioned they believe learners with ADHD have an aversion to or fear of entering careers that require academic or tertiary study. They suggested that the fear or aversion among their learners with ADHD may be linked to fear of academic failure, incompetency in their chosen career, or financial constraints of tertiary education.

The following section outlines the three sub-themes identified for Theme 1:

- ❖ 1.1 – Fear of academic careers or tertiary education
- ❖ 1.2 – An aversion to making a career choice due to beliefs of incompetency
- ❖ 1.3 – Financial constraints of academic study after school

#### 4.2.3.1 *Sub-theme 1.1: Fear of academic careers or tertiary education*

The participants mentioned that learners with ADHD may have a fear of continuing with tertiary education when concluding their high school career. On several occasions four of the participants mentioned that their learners with ADHD were afraid of academic study or entering tertiary education institutions. The following verbatim excerpts from the focus group interview illustrate this situation.

- ◇ *And I think learners with ADHD do have a tendency to shy away from any sort of academic career, careers that requires a bit more cerebral attention too they would rather than to do something with their hands or start a business, which I mean, is good if they can do it. But the fear of academia is far stronger. (P2, L22-26).*

Two participants indicated that they would provide career guidance for their learners with ADHD on whether to attend a tertiary education institution after high school. This would depend on the learners' specific functioning within the school environment.

- ◇ *...that's what when you say, how do we provide career guidance, I think it depends on are they high functioning? (P4, L67-68).*

Participant 2 indicated that the academic marks achieved by a learner with ADHD can influence how this learner feels about attending a tertiary institution or choosing an academic career.



- ◇ *I think that ADHD influences the bunch of aspects of your life. And I think the factors that then play a role is for example, what marks are you getting? What is your process regarding that?* (P2, L355-357).

Participant 5 mentioned an experience with a learner with ADHD who decided to start a non-academic career earlier in high school due to a lack of interest in school work.

- ◇ *... in grade 10 he already started doing that, so he wants to be... independent...he started earlier already to do it because he didn't like school* (P5, L262-265).

In the section that follows sub-theme 1.2 aversion of career choices due to belief of incompetency and lack of self-efficacy is discussed.

#### 4.2.3.2 *Sub-theme 1.2: Aversion to making a career choice due to beliefs of incompetency and lack of self-efficacy*

A working definition of Subtheme 1.2 (Aversion to making a career choice due to beliefs of incompetency and lack of self-efficacy) is discussed in Table 4.5. The table also explains the inclusion and exclusion criteria applied by the researcher.

**Table 4.5:** Aversion to making a career choice due to beliefs of incompetency and lack of self-efficacy (Sub-theme 1.2)

<b>WORKING DEFINITION – AVERSION TO CAREER CHOICE MAKING DUE TO BELIEFS OF INCOMPETENCY AND LACK OF SELF-EFFICACY</b>	
Self-efficacy is the extent to which an individual believes in their own abilities to accomplish certain tasks and engage in certain activities when they are faced with adverse circumstances such as the possibility of failure, due to lack of incompetency (Bandura, 2006; Bandura, 1977).	
<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
Any reference made by the participant about learners with ADHD having an aversion to career choice due to a lack competency and self-efficacy. Include a lack of self-confidence, being afraid of failure and similar statements.	Statements made regarding fear of academic careers or tertiary education. References to financial constraints caused by attending an academic institution after leaving high school.
Example: <i>I find with this specific challenge... Is that they said they are scared... They've been scared from when they were diagnosed in preschool to here, they are labelled. And they are scared, they kind of like you know, can I just leave school and get away here...</i> (P5, L193-196).	Example: <i>And they struggled to see how they can fit themselves into that little position or whatever they perceive it</i> (P1, L204-205).

Three of the participants mentioned that learners with ADHD may be afraid of making career choices due to a lack of confidence in their own ability to follow a specific career.

- ◇ *I find with this specific challenge ... making career choices. Is that they said they are scared... And they are scared, they are kind of like you know, can I just leave school and get away here... like the ones I know that finished last year was like, I can finally just go and be a grown up and I don't have to worry about what everyone is thinking of me anymore. And I think they're scared of that scrutiny in the workplace or whatever career choice they make. So, then they kind of just then leave it now, they are fearful. (P5, L199-201).*

Participant 2 mentioned that the career choices that learners with ADHD make may be restricted by fears due to negative experiences with the figures of authority who are in charge within their chosen careers.

- ◇ *... there's a fear of having a boss or having someone that's going to look over your shoulder. Yes, because what you've experienced is that the manager isn't that positive person that encourages you, a lot of times the manager or the teacher is the person that's willing to reprimand you (P2, L268-271).*

Two participants stated that making a career choice can be an overwhelming task for all learners. The participants stated that many learners feel that they only have one opportunity to decide what to do with the rest of their lives.

- ◇ *And you're making this decision now. And that's what you're going to do for the rest of your life. I studied art first. And then in education, it's not how it works. Your first decision is not your final decision. So, I can imagine just the general decision making that comes with a career choice for ADHD students must be incredibly overwhelming. And like I said, in general, kids are switching from week to week... And I think that is already a lot of pressure for a normal, functioning child so imagine an ADHD student (P2, L498-505).*
- ◇ *I also think that they think that this is the choice and that you're going to have to do that forever the same tedious thing for the rest of your life. I think that's why they don't make the choice they procrastinate (P3, L514-516).*

The following section deals with Sub-theme 1.3 (Financial constraints of academic study after school).

#### 4.2.3.3 Sub-theme 1.3: Financial constraints of academic study after school

A working definition of Sub-theme 1.3 (Financial demands of academic study after school) is provided in Table 4.6. The table also explains the inclusion and exclusion criteria applied by the researcher.

**Table 4.6:** Financial constraints of academic study after school (Sub-theme 1.3)

<b>WORKING DEFINITION – FINANCIAL CONSTRAINTS OF TERTIARY EDUCATION</b>	
Financial constraints can be defined as a lack of finances that limits an individual's economic activities (Ross, 2021). For this sub-theme. economic activity refers to the inability of learners with ADHD to afford tertiary education due to financial constraints (Ross, 2021).	
<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
Any reference by the participants to the financial constraints of tertiary education.	Any reference to fear of academic careers or tertiary education. Also any reference to aversion to career choice making, due to beliefs of incompetency and lack of self-efficacy.
Example: <i>Money of course money can pay for studies</i> (P5, L438).	Example: <i>So, I think the challenge is namely, confidence in knowing that you will be able to do the job and thus, you just kind of choose to not go into that career</i> (P2, L170-172).

The teacher participants were asked which factors they believe play a role when learners who have ADHD have to make career choices. Three participants mentioned that finances are a factor that influences learners with ADHD when making career choices. They mentioned that finances can play a role – both in being able to attend a tertiary institution, and in being able to pay for the treatment of ADHD.

- ◇ *Money of course money can pay for studies* (P5, L438).
- ◇ *... for treatment of ADHD if you don't have the finances there is no treatment for you really* (P2, L439-440).
- ◇ *It's not always cost effective for the parents or the society in general (referring to paying for studies and then switching to study something different)* (P4, L533).

The following section presents Theme 2, namely the influence of medication on career choices for learners with ADHD. Theme 2 comprised two sub-themes:

- ❖ 2.1 – Medication for ADHD may have a positive influence on career choices
- ❖ 2.2 – Medication for ADHD may have a negative influence on career choices

#### 4.2.4 Theme 2: The influence of medication on career choices for learners with ADHD

The participants often spoke of their learners taking medication for ADHD and what the possible effects may be on career choices when learners are taking medication for ADHD. The data revealed that the participants believe that the use of medication for ADHD may have a positive and a negative influence on learners.

Medication often taken for the treatment of ADHD is a specific type of stimulant medication that influences the dopamine levels in the brain (Robinson et al., 2021). Dopamine – a neurotransmitter found in the brain – is linked to various functions, including maintaining and sustaining attention and focus (Wolraich et al., 2019). Dopamine acts as a stimulant in the brain, and stimulant medication increases dopamine levels (Wolraich et al., 2019).

The next section outlines the two sub-themes identified in the data analysis:

- ❖ 2.1 – Potential positive influence of ADHD medication on career choices
- ❖ 2.2 – Potential negative influence of ADHD medication on career choices

##### 4.2.4.1 Sub-theme 2.1: Potential positive influence of ADHD medication on career choices

A working definition of Subtheme 2.1 (Medication for ADHD may have a positive influence on career choices) is presented in Table 4.7. The table also explains the inclusion and exclusion criteria applied by the researcher.

**Table 4.7:** Potential positive influence of ADHD medication on career choices (Sub-theme 2.1)

WORKING DEFINITION – POTENTIAL POSITIVE INFLUENCE OF ADHD MEDICATION ON CAREER CHOICES	
The positive effects of stimulant medication on learners with ADHD include increased ability to concentrate, pay sustained attention and improve other symptoms of ADHD such as impulsivity and hyperactivity (Robinson et al., 2021; Wolraich et al., 2019). For this subtheme, the positive effects of taking medication for ADHD refer to the potential benefits this medication may have for those learners with ADHD who take the medication (Wolraich et al., 2019).	
INCLUSION CRITERIA	EXCLUSION CRITERIA
Any reference made by the participants to indicate that the use of medication for ADHD has a positive impact on learners with ADHD.	Any reference made about the use of medication having a negative impact on learners with ADHD.
Example: ...I mean you obviously medication will not suit all of the kids, but I have seen good results and those kids are then able to get over that fear that barrier and then I have had ADHD kids who've gone to university and who have performed um well (P3, L44-46).	Example: ...They were never asked okay do you want to stop? Do you want to see what happens if you take less or more? So, they have always been told what to do with regards to that, especially in the medication (P5, L609-612).

The participants referred to medication having a positive impact on the performance of learners with ADHD.

- ◇ *...I mean you obviously medication will not suit all of the kids, but I have seen good results and those kids are then able to get over that fear that barrier and then I have had ADHD kids who've gone to university and who have performed um well (P3, L44-46).*
- ◇ *... they will have to know what the side effects are and how it influences things. Like with co-ordination well in my mind, I think they get more co-ordinated (P4, L184-188).*
- ◇ *Many of them it has to be individual because some take medication and it works others that the medication doesn't work (P1, L543-544).*

The next section highlights Sub-theme 2.2.

#### 4.2.4.2 Sub-theme 2.2: Potential negative influence of ADHD medication on career choices

A working definition of Sub-theme 2.2 (Potential negative influence of ADHD medication on career choices) is included in Table 4.8. The table also explains the inclusion and exclusion criteria applied by the researcher.

**Table 4.8:** Potential negative influence of ADHD medication on career choices (Sub-theme 2.2)

<b>WORKING DEFINITION – POTENTIAL NEGATIVE INFLUENCE OF ADHD MEDICATION ON CAREER CHOICES</b>	
Stimulant medication is often used to treat ADHD. This medication is known to increase the dopamine levels in the brain (Robinson et al., 2021). For this subtheme, the negative influence of medication refers to the potential negative side effects this medication may have on learners with ADHD who take the medication (Wolraich et al., 2019).	
<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
Data indicating that the use of ADHD medication has a negative impact on learners with ADHD.	Data suggesting that the use of medication for ADHD has a positive impact on learners with ADHD.
Example: <i>I (referring to a learner with ADHD) have an issue, I have to take this medicine, because I cannot be like the other kids (P2, L278-279)</i>	Example: <i>...I mean you obviously medication will not suit all of the kids, but I have seen good results and those kids are then able to get over that fear that barrier and then I have had ADHD kids who've gone to university and who have performed um well (P3, L44-46).</i>

Two of the participants maintained that some learners with ADHD were not given a choice about taking medication for ADHD during their school years and they suggested that this may influence these learners' ability to make choices later in life.

- ◇ *I do think, especially when it comes to ADHD, unfortunately, a lot of these kids do not have a choice whether you are taking the medication or not, for example. So, I think throughout the whole process, you are given this burden, and you have no choice and all you're hearing is if you don't drink your pills that teachers are on you. Even if you're just a little bit disruptive today, you will hear the question, did you take your pills today... It immediately gets decided that you probably didn't take your pills today so I think to allow them to feel like they have their own permission and their own decision making from the get-go might also help with career decisions... (P2, L599-608).*

Participant 2 discussed how taking medication for ADHD may be linked to substance abuse problems in adulthood.

- ◇ *...leading to long term side effects and more people having in substance abuse issues later in their lives. Because from an early age, I have problems and I take a pill so I have problem later in life, I drink a bottle of wine or whatever it is your addiction might become, because you're from a young age teaching them that the substance is what's going to fix you... (P2, L619-623)*

Participant 4 mentioned the negative side effects of medication by referring to the possible influence these medications may have on potential career pathways.

- ◇ *Talking about medication and side effects are they able to do a specific job like certain places if you're going to dive on most medications because it affects motor function, you can't handle big machines in factories for instance (P4, L181-184).*
- ◇ *Like open heart surgery and the medications wears out because those surgeries can take up to 16/18 hours (P4, L191-192).*

In the section that follows, the focus is on Theme 3 – the influence of external factors (parental figures and employers) on career choices for learners with ADHD. Two sub-themes were identified and are also discussed in the following section:

- ❖ 3.1 – The influence of parents
- ❖ 3.2 – The influence of prospective employers

#### **4.2.5 Theme 3: The influence of external factors (parental figures and employers) on career choices for learners with ADHD**

The teacher participants were asked about factors that may influence learners with ADHD and their career choices. They often discussed external influences such

as caused by the parents of the learners who have ADHD and referred to ways in which prospective employers may also have an influence on the career choices made by learners with ADHD.

An external factor is a factor that is external to the learner with ADHD and it is something over which the individual has no control (Martinez & Shaker, 2021). External factors may include family members and employers who may impact learners' decision making in both a positive and negative manner (Martinez & Shaker, 2021).

#### 4.2.5.1 Sub-theme 3.1: The influence of parents

A working definition of subtheme 3.1 (The influence that parents have on careers choice for learners with ADHD), as well as the inclusion and exclusion criteria applied by the researcher, are included in Table 4.9.

**Table 4.9:** The influence of parents on career choices (Sub-theme 3.1)

WORKING DEFINITION – THE INFLUENCE OF PARENTS	
An individual's parent/s refers to their mother and/or father. For this subtheme the influence of parents is an external factor. It refers to the way a learner with ADHD is influenced by their parents when making a career choice (Martinez & Shaker, 2021).	
INCLUSION CRITERIA	EXCLUSION CRITERIA
Data that refers to the parent/s of a learner with ADHD and any influence the parents may have on the learner with ADHD.	Any data that refers to the way a learner with ADHD may be influenced by the prospective employer.
Example: <i>And then is the parent putting pressure on them so they can go study or not study or not... is the parent, enabling or helping or are they making them a happy overall child in different aspects...</i> (P5, L378-379).	Example: <i>And employee's that's the thing that I want to get to. How does it influence the career choices? What does the employer offer in terms of their specialness? (Referring to learners with ADHD) (P4, L347-349).</i>

Participant 5 referred to the way in which parents may influence their children with ADHD.

- ◇ *...I would say the parents also have a place. Overall, how they deal with the ADHD from a young age, throughout school, well, we while they are in school environment. Some parents support the child and try to work around other parents enable them in that in a negative way (P5, L373-376).*

Participant 5 also referred to parents having a negative influence on learners with ADHD. When the participants mentioned parents, they were referring to the parents of the learners with ADHD.

- ◇ *And I feel sometimes the parents just fall back and forth, but he [the child] has ADHD, and I can't help him. And then they just don't help them and nobody's helping them (P5, L469-472).*

Participant 5 went on to mention how, on several occasions, the parents of learners with ADHD can influence their child's career choices in both a negative and a positive manner.

- ◇ *And then is the parent putting pressure on them so they can go study or not study or not... is the parent, enabling or helping or are they making them a happy overall child in different aspects... (P5, L378-379).*

Two participants suggested that many of their learners with ADHD may follow the same career pathway as their parents.

- ◇ *I think some of them because they are going to do what their parents do you that do their parents did, what they did (P1, L112-113).*
- ◇ *... many of our children [learners with ADHD] have family businesses in the family. So, they don't have to (P4, L114-115).*

The following section deals with Sub-theme 3.2, the influence of prospective employers on learners with ADHD.

#### 4.2.5.2 Sub-theme 3.2: The influence of prospective employers

Table 4.10 provides a working definition of sub-theme 3.2 (The influence of prospective employers on learners with ADHD) and discusses the inclusion and exclusion criteria applied by the researcher.

**Table 4.10:** The influence of prospective employers on career choices (Sub-theme 3.2)

<b>WORKING DEFINITION – THE INFLUENCE OF PROSPECTIVE EMPLOYERS</b>	
Employers are the people or entities that employ and pay employees for services rendered (MightyRecruiter, 2022). For sub-theme 3.2, an employer will refer to a single person or a company with many employees who may have an influence on the career choice of learners with ADHD (MightyRecruiter, 2022).	
<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
Any reference to data on how a learner with ADHD may be influenced by the prospective employer.	Any reference to the way in which parent/s may influence learners with ADHD.
Example: <i>... it seems that all my answers seem to come from what does the employer offer me. (P4, L365-366)</i>	Example: <i>...are the parents realistic the parent is an accountant and now their child must go into that kind of job... (P5, L388-389).</i>



The researcher asked if the participants feel that a prospective employer should allow an employee with ADHD more freedom in the workplace to get higher productivity from them. They indicated that micromanaging an employee with ADHD may have a negative impact on their performance. The researcher's question and the participant's response are seen below:

- ◇ *... do you think if a person with ADHD being in a workplace where bosses ... leave the person do you think they'll be more productive? (Researcher, L228-229).*

Participant 2 responded as follows:

- ◇ *I do, I think if we can just like have deadlines and things that needs to be met, but there's not like I said that micromanager that really goes what have you done? Because yeah, I don't think it necessarily works for people with ADHD (P2, L290-292).*

Participant 4 mentioned that employers in more developed countries (than South Africa) may be better able to accommodate a person who has ADHD in the workplace. This participant indicated that more developed countries may be more open towards changes in the workplace that would be accommodating of the needs of learners with ADHD.

- ◇ *...developed countries versus that so you're more developed countries have a more openness towards these changes that needs to happen in the workplace to accommodate everyone.... And that (referring to accommodations in the workplace) will also help people, but we (referring to South Africa) are not there and that is they must have, know what choices are available, outside of what they know (referring to learners with ADHD) (P4, L245-247 and L254-256).*

Participant 4 also discussed the influence of employers offering accommodations to potential employees with ADHD and how this may influence the career choices that learners with ADHD make. When the participant speaks of accommodations, they suggest specific items or allowances that would aid a person with ADHD in the workplace.

- ◇ *And employee's that's the thing that I want to get to. How does it influence the career choices? What does the employer offer in terms of their specialness? [referring to learners with ADHD] (P4, L347-349).*

Participant 2 mentioned that the way a learner with ADHD is able to interact with potential employers could influence the learner's career choices. The participant

argued that career choices are influenced by the learner’s being diagnosed with ADHD, as the way an individual is able to interact with prospective employers could be affected.

◇ *I think the way you interact with... your boss that obviously gets influenced by the ADHD would be factors that end up influencing the career choice that you end up making. Yeah.* (P2, L360-362)

The following section discusses Theme 4 – the effect that having ADHD has on career choices. Theme 4 comprised two sub-themes which are also outlined next.

#### 4.2.6 Theme 4: The effect that having ADHD has on career choices

Table 4.11 presents a working definition of Subtheme 4.1 (symptoms of inattentive ADHD may influence career choices) and also discusses the inclusion and exclusion criteria applied by the researcher.

**Table 4.11:** Symptoms of inattentive ADHD influencing career choices (Sub-theme 4.1)

<b>WORKING DEFINITION – SYMPTOMS OF INATTENTIVE ADHD INFLUENCING CAREER CHOICES</b>	
<p>One of the main symptoms of ADHD is inattention. For sub-theme 4.1, inattentiveness can be any of the descriptions that have been set out according to the DSM-V (APA, 2013).</p> <ul style="list-style-type: none"> <li>❖ Making careless mistakes in the school or work environment</li> <li>❖ Difficulty sustaining attention during tasks</li> <li>❖ Difficulty with following instructions</li> <li>❖ Difficulty with task organisation</li> <li>❖ Difficulty with sustaining concentration over a long period of time</li> <li>❖ Difficulty remembering daily tasks</li> <li>❖ Easily distracted</li> </ul>	
<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
Any reference to data that suggests that a learner with ADHD may have inattention difficulties.	Any reference to data indicating that ADHD may influence an entrepreneurial career choice.
Example: <i>The only thing is to try and guide them as to not pick and choose a career that requires eight hours of sitting down at a desk and concentrating</i> (P3, L33-34).	Example: <i>In South Africa, and entrepreneurially as well. And I think that is a big thing that ADHD kids can also go into is starting their own thing (referring to becoming an entrepreneur). And I found that with the ones that I had last year that finished matric they want to do their own thing, they don't want to go into that stuff they don't want to study</i> (P5, L257-261).

The participants suggested that learners with ADHD may be influenced by the symptoms of ADHD and that the symptoms of ADHD might influence their learners’ career choices. The symptom that was discussed often was inattentiveness and how this may influence career choices.

It was suggested that learners with ADHD may be more inclined to go into entrepreneurial careers. The participants spoke of how learners with ADHD might prefer a career that has an entrepreneurial base and argued that learners with ADHD might also enjoy a more practical career that does not require great and sustained mental effort and having to concentrate for long periods of time.

#### 4.2.6.1 Sub-theme 4.1: Symptoms of inattentive ADHD influencing career choices

The participants discussed how the symptoms of ADHD may influence the way in which they would provide career guidance. One participant mentioned that career guidance for learners with ADHD might include guiding them to make career choices that would not require the individual to sit at a desk for extended amounts of time, as this may be difficult for a learner with ADHD.

Additionally, Participant 3 mentioned if a learner chose a career path not suited to the symptoms of ADHD, then the teacher might gently provide career guidance and point out other careers that would be better suited and would accommodate the symptoms of ADHD.

- ◇ *...if it's something [referring to a career choice] that's not going to be suited to the ADHD thing, then maybe guide them to give them other options... not like you have ADHD you can't do that thing [referring to a career choice] (P3, L37-39).*

Participant 3 mentioned some of the possible career types that in their opinion would be more suitable to individuals with ADHD. Such careers could provide more adrenaline, which might help with being able to focus.

Another participant agreed and followed up with a comment about how individuals with ADHD can focus their attention for short periods before moving on to something else. The first participant's excerpt is seen below:

- ◇ *When I looked up ADHD and careers, they said the most interesting jobs like policemen and firemen, that ER paramedics, teachers. Those are the careers for people with ADHD because of the adrenaline that keeps your mind focused because you need to make quick decisions (P3, L147-150).*

The follow-up comment is seen below:

- ◇ *And then short bursts, which is good for an ADHD person, focus all their attention for a little bit, and then move on to something else (P1, L151-152).*

The participants were asked what challenges they feel learners with ADHD face when making career choices. One participant responded that learners with ADHD might not want to choose careers that will require them to sit still for extended periods of time. The participant stated that even though a learner with ADHD might have the talent or skills for a specific career, the symptoms of ADHD (namely attention difficulties) may deter learners from choosing such a career.

- ◇ *So, I think a lot of them just feel like they don't want to get those careers, that's going to make them sit still. And it does make it quite difficult because there are many kids that have the talent to, let's say, for example, do something like art, then having to sit at a desk for four hours, just drawing, it becomes too much (P2, L158-162).*

In response to the question asked by the researcher about what challenges the participants feel learners with ADHD face when making career choices, Participant 3 surmised whether the chosen career would provide structure and guidance, and wondered about the amount of paperwork required by the job. This participant also mentioned the symptom of inattention being an influence, specifically concentration difficulties, and doubted whether the individual would be able to sit at a desk for extended periods of time.

- ◇ *How much stress the job entails, so how stressful. How much structure and guidance would be you get in which ever career and then how much paperwork there is because I think they dread definitely and then will they be required to sit behind a desk and concentrate for long periods of time... (P3, L173-177).*

In the section that follows, Sub-theme 4.2 (Learners making career choices that are of an entrepreneurial nature or practically orientated) is outlined.

#### *4.2.6.2 Sub-theme 4.2: Learners making career choices that are of an entrepreneurial nature or practically orientated*

Table 4.12 gives a working definition of Subtheme 4.2 (Learners making career choices that are entrepreneurial or practically orientated), as well as the inclusion and exclusion criteria applied by the researcher.

**Table 4.12:** Learners making career choices that are entrepreneurial or practically orientated (Sub-theme 4.2)

<b>WORKING DEFINITION – LEARNERS MAKING CAREER CHOICES THAT ARE ENTREPRENEURIAL/ PRACTICALLY ORIENTATED</b>	
An entrepreneur can be described as a person who develops their own businesses in order to earn money (Cambridge Dictionary, 2022). For Sub-theme 4.2, an entrepreneur will refer to a learner with ADHD who may wish to become an entrepreneur.	
<b>INCLUSION CRITERIA</b>	<b>EXCLUSION CRITERIA</b>
Any reference to data indicating that ADHD may influence an entrepreneurial career choice.	Any reference to data indicating that a learner with ADHD may have inattention difficulties.
Example: <i>In South Africa, and definitely entrepreneurially as well. And I think that is a big thing that ADHD kids can also go into is starting their own thing (referring to becoming an entrepreneur). And I found that with the ones that I had last year that finished matric they want to do their own thing, they don't want to go into that stuff they don't want to study (P5, L257-261).</i>	Example: <i>And then short bursts, which is good for an ADHD person, focus all their attention for a little bit, and then move on to something else (P1, L151-152).</i>

The participants commented on how learners with ADHD may be more inclined to enter into careers that are more entrepreneurially orientated, because the symptoms of ADHD may cause them to be better fitted for an entrepreneurial job.

Participant 5 commented about how learners with ADHD appear not to be academically focused, but are more interested in the practical subjects. The participant suggested that the practical subjects are often linked to entrepreneurs.

◇ *They not very academically, focused at all more practical and unpractical subjects ... (P5, L144-146).*

Participant 3 commented on how learners with ADHD should be encouraged to choose careers that are entrepreneurial in nature.

◇ *They should also just be made aware that ADHD is not just a bad thing actually you can do everything if you're an entrepreneur... (P3, L216-217).*

Participant 5 agreed that her experience of learners with ADHD suggested that some of them tended to choose careers that are entrepreneurial in nature.

◇ *In South Africa, and definitely entrepreneurially as well. And I think that is a big thing that ADHD kids can also go into is starting their own thing (referring to becoming an entrepreneur). And I found that with the ones that I had last year that finished matric they want to do their own thing, they don't want to go into that stuff they don't want to study (P5, L257-261).*

### **4.3 CHAPTER SUMMARY**

Chapter 4 presented the results of the data analysis. In the following chapter (Chapter 5), the findings of the study will be discussed based on the results from the data gathered. The discussion will consider the context of the literature and revisit the theoretical and conceptual framework that supports the current study.

# **CHAPTER 5: THE FINDINGS OF THE CURRENT STUDY WITHIN THE CONTEXT OF LITERATURE**

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## **5.1 INTRODUCTION**

When a researcher conducts a qualitative research study, the data used is drawn from the participants' experiences, with a goal to produce findings that are meaningful (Attride-Stirling, 2001). The purpose of the current research study was to explore and understand teachers' experiences of how learners with ADHD make career choices.

In Chapter 5, the researcher discusses the findings of the study within the context of the current literature. She used the following points as a guide to this discussion:

1. Do recent research studies support the findings?
2. Do any of the recent research studies disagree with the current findings?
3. Have any of the findings from the current study not been reported on previously?
4. Did any particular trends appear within the current study?

## **5.2 DISCUSSION OF THE STUDY FINDINGS WITHIN THE CONTEXT OF LITERATURE**

One semi-structured focus group interview was used to identify the various themes and sub-themes and to understand teachers' experiences of how ADHD influence learners' career choices.

The themes and sub-themes presented in Chapter 4 are discussed next.

### **5.2.1 THEME 1: AVERSION TO OR FEAR OF SPECIFIC CAREER CHOICES**

Aversion to or fear of specific career choices for learners with ADHD was the first theme that emerged during the data analysis phase. The participants reported that they experienced a general trend among their learners with ADHD of having a fear of specific career choices.

The three sub-themes identified within Theme 1 are next discussed within the context of the literature in the sections that follow. The first discussion deals with sub-theme 1 – Fear of academic careers or tertiary education.

#### *5.2.1.1 Sub-theme 1.1: Fear of academic careers or tertiary education*

The participants mentioned that their learners with ADHD often displayed an aversion to choosing careers that were academically focused or that required study at a tertiary institution. Thus, sub-theme 1.1 Fear of academic careers or tertiary education was identified.

The findings of the current research support those of Barkley et al. (2008) who found that individuals with ADHD are less likely to attend tertiary institutions. Those individuals who have ADHD and yet enrol in tertiary institutions tend to obtain much lower academic results than those who do not have ADHD. They are also more likely to drop out or withdraw from their courses (Advokat et al., 2011; DuPaul et al., 2018; Gormley et al., 2019). The graduation rates of students in tertiary institutions who have ADHD are lower than those of students who do not have ADHD (Hechtman et al., 2016). According to Weyandt et al. (2013), this lower academic performance may be related to the executive functioning difficulties that are linked to ADHD symptomology (Weyandt et al., 2013).]

The section outlines the second sub-theme, namely aversion to career choice making due to beliefs of incompetency and lack of self-efficacy.

#### *5.2.1.2 Sub-theme 1.2: Aversion to career choice making due to beliefs of incompetency and lack of self-efficacy*

The teacher participants also suggested that their learners with ADHD may have an aversion to specific career types due to the belief that they cannot competently pursue a specific career path. This belief of incompetency within a career field was often noticed as part of a lack of self-efficacy and gave rise to Sub-theme 1.2 emerging from the data.

The findings of sub-theme 1.2 support the findings by Luzzo et al. (1999) and Shaw-Zirt et al. (2005) who noticed that students who have ADHD often experience decreased confidence levels that can be linked to lower career decision and self-efficacy. According to Luzzo et al. (1999) and Shaw-Zirt et al. (2005), decreased self-



efficacy in career decision making is likely to correlate with indecisiveness in making career choices (Tomevi, 2013).

In a 15-year longitudinal study conducted by Turnock et al. (1998), it was found that fewer than 5% of college students who had ADHD completed their college degrees, whereas more than 40% of students who did not have ADHD completed their college courses successfully. According to Luzzo (1993) and Shaw-Zirt et al. (2005), college students' capacity to prosper in tertiary education institutions may have an influence on their self-efficacy. Deficits in self-esteem and self-efficacy, which often accompany ADHD, may have an impact on the individual's ability to adjust to academic demands (Tomevi, 2013; Luzzo, 1993; Shaw-Zirt et al., 2005). The data gained from the participants during the focus group interview supports the findings stated above, as the teachers often spoke of learners with ADHD having a fear of following an academic career after high school.

The following section discusses Sub-theme 1.3, namely financial constraints of tertiary education.

#### *5.2.1.3 Sub-theme 1.3: Financial constraints of tertiary education*

Three of the participants suggested that the financial resources available to learners with ADHD could perhaps be linked to their reasons for having an aversion to proceeding to tertiary education.

No research could be found to support the finding that learners with ADHD specifically have an aversion to entering tertiary education institutions due to financial reasons. However, according to Macgregor (2007), South African university students often drop out of university due to financial reasons, unsuitable career choices and domestic difficulties. The findings from the current study therefore support the findings of Macgregor (2007).

Next, the second main theme – the influence of medication on career choices for learners with ADHD – is presented, along with the two sub-themes that emerged from this theme.

### **5.2.2 THEME 2: THE INFLUENCE OF MEDICATION ON CAREER CHOICES FOR LEARNERS WITH ADHD**

The participants discussed the effects of taking medication for ADHD and its potential influence on their learners with ADHD. The attitudes of the teachers

regarding learners taking medication for ADHD represented both a positive and a negative view. Some participants believed that medication had a positive impact on learners with ADHD, while others mentioned the possible negative effects of taking such medication. These two sub-themes that were identified within Theme 2 are discussed within the context of the literature in the following sections.

#### *5.2.2.1 Sub-theme 2.1: Potential positive influence of ADHD medication on career choices*

The participants spoke about their individual experiences with learners who take medication for ADHD and how this often has a positive impact on these learners. They often mentioned its positive impact specifically on academic performance and suggested that medication may have enhanced the academic performance of learners with ADHD.

The findings of the current research study support those of Bolanda et al. (2020) who conducted a literature review and meta-analysis of the influence of taking medication for ADHD. Their literature review included 40 different articles that predominantly found that taking medication for ADHD provided a protective effect against some psychiatric disorders such as mood disorders, depression and substance abuse disorders. Furthermore, Bolanda et al. (2020) found that taking medication for ADHD protects against injury, motor vehicle accidents, poor educational outcomes and mood disorders. The findings of the current study regarding the positive influence of medication for learners with ADHD therefore support the findings of the literature review by Bolanda et al. (2020).

#### *5.2.2.2 Sub-theme 2.2: Potential negative influence of ADHD medication on career choices*

The participants also discussed the possible negative influences of taking medication for ADHD. They spoke about how their learners were not always given a choice as to whether or not they would like to take medication for ADHD and felt that this probably had a negative effect on the learner's ability to make choices later in life.

However, the finding that not having the choice to take (or refuse) medication for ADHD may influence a learner's ability to make career choices later in life (see Section 4.2.4.2), were not supported within the context of the available literature.

Participant 2 suggested that taking medication for ADHD could increase substance abuse problems. A quote to demonstrate the participant's sentiments in this

regard is as follows: *...leading to long term side effects and more people having in substance abuse issues later in their lives. Because from an early age, I have problems and I take a pill so I have problem later in life, I drink a bottle of wine or whatever it is your addiction might become, because you're from a young age teaching them that the substance is what's going to fix you...* (P2, L619-623).

There were no findings in the literature to support the notion that taking medication for ADHD increases the risk of substance abuse. However, research suggests that being diagnosed with ADHD is associated with an increased risk of substance abuse (Barkly & Murphy, 2010; Biederman & Faraone, 2006; Gàlan & Humphreys, 2017; Swanson et al., 2016). Participant 4 spoke of the negative effects of taking medication on possible career choices. The quote to substantiate this claim is as follows: *Talking about medication and side effects are they able to do a specific job like certain places if you're going to dive on most medications because it affects motor function, you can't handle big machines in factories for instance* (P4, L181-184).

No research findings regarding the negative effects that taking medication for ADHD may have on career choices were found by the author of this dissertation. However, according to Meaux et al. (2006) and Prosser (2008), adolescents reported the benefits of taking medication for ADHD and claimed that it aided them to make decisions more easily and thus led to more productive academic and educational outcomes. Meaux et al. (2006) and Avisar and Avie-Ajayi (2014) found that even when side effects from taking medication for ADHD were reported, individuals preferred to continue to take medication for ADHD as it provided positive educational and academic outcomes.

The following section discusses Theme 3, the influence of external factors such as parents and employers on career choices for learners with ADHD. The two sub-themes (3.1 and 3.2) are discussed in the sections that follow.

### **5.2.3 THEME 3: THE INFLUENCE OF EXTERNAL FACTORS (PARENTS AND EMPLOYERS) ON CAREER CHOICES FOR LEARNERS WITH ADHD**

In the focus group interview, the participants often spoke of various external factors that could influence the career decision making of learners with ADHD. The influence of parents as well employers as representative of external influence often featured in the focus group interview.

Theme 3 thus comprises two sub-themes:

- ❖ 3.1 – The influence of parents
- ❖ 3.2 – The influence of prospective employers

#### *5.2.3.1 Sub-theme 3.1: The influence of parents*

The participants suggested that the parents of children with ADHD may have a significant influence on the career choices made by these learners. The fact that parents can influence the career journey of their children with ADHD – whether in a negative or positive manner – clearly emerged from the focus group interview. The conclusion that parents have an influence on the career choices of their children with ADHD supports the findings of Johnston and Chronis-Tuscano (2015). These authors suggest that numerous family factors interact with and influence children with ADHD.

#### *5.2.3.2 Sub-theme 3.2 – The influence of prospective employers*

The teacher participants suggested that prospective employers may have an influence on the career choices that a learner with ADHD makes. This finding supports a consensus opinion reached by Adamou et al. (2013) in which they found that employers may not be properly informed about the potential benefits of employing an individual with ADHD. This may lead to negative viewpoints of employees with ADHD and influence prospective employers' willingness to employ an individual with ADHD. In a study conducted by Fuermaier et al. (2021), individuals with ADHD were found to have work-related difficulties. The individuals in this study were found to have issues due to challenges by their employers, which resulted in poor work performance, low job evaluations and loss of employment (Fuermaier et al., 2021).

The next section discusses Theme 4, as well as its two sub-themes:

- ❖ 4.1 – Symptoms of inattentive ADHD may influence career choices
- ❖ 4.2 – ADHD learners make career choices that are of an entrepreneurial nature

### **5.2.4 THEME 4: THE EFFECT THAT HAVING ADHD HAS ON CAREER CHOICES**

This section deals with Theme 4 and its subthemes which appeared during the analysis of the participants' responses in the focus group interview. The participants discussed how learners' symptoms of ADHD, such as being inattentive, may influence their career choices. During the interview, the participants exchanged views about how

learners with ADHD often make career choices that are of a more entrepreneurial nature, which allows the individual to create their own career pathways.

Theme 4 contained two sub-themes:

- ❖ 4.1 – Symptoms of inattentive ADHD may influence career choices
- ❖ 4.2 – ADHD learners make career choices that are entrepreneurial

#### *5.2.4.1 Sub-theme 4.1: Symptoms of inattentive ADHD may influence career choices*

The participants discussed how the symptoms of ADHD – especially inattentiveness – may influence career choices. They suggested that learners with ADHD may not want to enter a career that requires them to concentrate for long periods of time due to their symptoms of inattentive ADHD. The findings of the current study regarding symptoms of inattentive ADHD having an influence on career choices are supported by other research. According to Barkley and Murphy (2010), those who have ADHD and who exhibit the inattentiveness often find it challenging to fit into career pathways that require sustained attention and collaboration with work colleagues. Thus, individuals with ADHD who exhibit inattentive behaviours may find it easier to work in an environment where they are able to work independently and rely on their own self-sufficiency (Mannuzza et al., 1993).

#### *5.2.4.2 Sub-theme 4.2: Learners with ADHD make career choices that are of an entrepreneurial nature*

The teacher participants repeatedly mentioned that their learners with ADHD may be more inclined to choose careers that have an entrepreneurial foundation. They put forward their view that entrepreneurship would potentially be a good career choice for their learners with ADHD.

The findings that learners with ADHD make entrepreneurial career choices correspond with those of Wiklund et al. (2017) who found that while symptoms of inattentive ADHD are negatively associated with entrepreneurship, ADHD symptoms of impulsivity are positively linked to entrepreneurship. The study conducted by Wiklund et al. (2017) revealed that there was a positive correlation between having ADHD with symptoms of impulsivity and entering into an entrepreneurial career. Furthermore, their research suggested that various symptoms of ADHD may be linked

to individuals who are more inclined to start a business of their own or to embrace entrepreneurship (Wiklund et al., 2017).

In the next section, the theoretical and conceptual framework of the current study is revisited.

### **5.3 REVISITING THE THEORETICAL AND CONCEPTUAL FRAMEWORK THAT SUPPORTS THIS STUDY**

The theoretical and conceptual framework that guided the current study was Krumboltz's social learning theory of career decision making (Krumboltz, 1994; Krumboltz et al., 1976). This theory puts forth the idea that career decision making can be influenced by four factors that each has an impact on career decision making (Saint-Ulysse, 2017). The first factor considered in Krumboltz's social learning theory of career decision making (Krumboltz, 1994; Krumboltz et al., 1976) is genetic endowment and special abilities; the second factor is environmental conditions and events that could impact career decision making; the third factor involves learning experiences; and the fourth factor involves task approach skills (Saint-Ulysse, 2017; Stead & Watson, 2017).

The participants in the current study discussed the significance of genetic endowment and special abilities (Krumboltz, 1994; Krumboltz et al., 1976) and gave evidence to support this factor by indicating that their learners with ADHD are special and unique. They stated that these individuals may need a different type of career guidance and agreed that while some learners with ADHD were academically strong, others might not be interested in academics.

Various external and environmental conditions identified by participants during the focus group interview could have a potential influence on their learners with ADHD when making career choices (Krumboltz, 1994; Krumboltz et al., 1976). These conditions included parental influences, as well as prospective employers' influence on career choices.

Learning experiences highlighted by the participants involved the impact of taking medication for ADHD, as well as participants' perception that learners with ADHD have an aversion to attending tertiary education institutions.

The participants highlighted task approach skills during their discussions of how the symptoms of ADHD may influence career choices. They mentioned symptoms of

inattention and suggested that learners with ADHD may be more inclined to choose careers that are entrepreneurially focused.

#### **5.4 CHAPTER SUMMARY**

Chapter 5 explained the findings of the current study in the context of the available literature.

# CHAPTER 6: FINDINGS, RECOMMENDATIONS, AND CONCLUSIONS

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## 6.1 INTRODUCTION

This chapter concludes the current study and reviews the primary and secondary research questions presented Chapter 1, based on the research findings. This chapter reflects on the limitations of the study and discusses the way in which ethical aspects were considered during the current research. The chapter makes recommendations for future research and presents the researcher's personal reflections and concluding remarks.

## 6.2 ANSWERING THE RESEARCH QUESTIONS

In the current study the primary research question was formulated as follows: *“What are teachers’ experiences of how ADHD may influence learners’ career choices?”*

The purpose of the current study was therefore to explore and describe teachers’ experiences of how ADHD may influence learners’ career choices. The study used an interpretive paradigm with a qualitative research methodology. The primary research question necessitated two additional research questions – one descriptive question and one exploratory question – which were formulated as the secondary research questions in Section 1.3.2. These questions are discussed first, based on the findings of the current research.

### 6.2.1 Secondary research questions

#### 6.2.1.1 *Descriptive question*

*What factors do teachers believe play a role in the career choices that learners with ADHD make?*

The participants in this study mentioned several factors that they as teachers believed can play a role in career choice making for learners with ADHD. These factors are illustrated by quoting the participants’ own words.

Firstly, teachers believed that learners have a fear of certain careers due to their perceptions of their own incompetency and lack of self-efficacy. Participant 3



mentioned that “...*fear that influences a learner with ADHD choice, ... a learner with ADHD might be able to go into a certain field but because of fear they don't try*” (P3, L363-364). This excerpt suggests that teachers believe career choices are influenced by learners with ADHD who think that they may not be competent in a particular career field or who lack self-efficacy. As shown in Chapter 5, this finding supports the findings of Tomevi (2013) and Shaw-Zirt (2005), who suggest that individuals who have ADHD often have deficits in respect of self-esteem and self-efficacy.

Secondly, the participants also discussed how taking medication for ADHD may be a factor that influences career choices. One participant suggested that medication made a positive difference for learners with ADHD, while another participant stressed the negative effects of ADHD medication on career choices. As shown in Chapter 5, the perception that medication for ADHD has a positive influence on individuals with ADHD supports the findings of Bolanda et al. (2020). They conducted a literature review which suggested that medication for ADHD protects against various factors such as injury, accidents, and poor educational outcomes (Bolanda et al., 2020).

Thirdly, the fact that parents influence the career choices of learners with ADHD was discussed and confirmed by the participant teachers. The participants firmly believed that parents influence their children with ADHD when making a career choice. As shown in Chapter 5, this finding supports those of Johnston and Chronis-Tuscano (2015) who suggest that family factors have an influence on the way that children with ADHD make career choices.

Fourthly, the participants also suggested that the prospective employer is a factor that affects learners with ADHD when they make career choices. Again, as shown in Chapter 5, this finding supports that of Fuermaier (2021) who found that individuals with ADHD often have work-related challenges with their employers.

To summarise and answer the descriptive secondary research question, “*What factors do teachers believe play a role in career choices for learners with ADHD?*”, the participants believed that the following factors play a role in career choices for learners with ADHD:

- ❖ Learners with ADHD feeling incompetent and having a lack of self-efficacy
- ❖ The influence of taking medication for ADHD
- ❖ The influence of parents
- ❖ The influence of the prospective employer

### 6.2.1.2 Exploratory question

*How do educational outcomes influence learners with ADHD when making a career choice?*

In the current research study, the participants discussed how their learners with often ADHD have an aversion of attending tertiary institutions. This may be due to a fear of not being able to succeed academically or not wanting to attend university because of the academic challenges they experienced at school. The teacher participants reveal that, when making career choices, learners with ADHD may be afraid of attending tertiary institutions because of inadequate educational outcomes. They argued that if learners with ADHD have a fear of attending a tertiary institution, then their career choices may be influenced, due to their not being able to enter a career field that requires further academic study after high school. As shown in Chapter 5, this finding supports the findings of Barkley et al. (2008) as well as DuPaul (2018) who suggest that individuals with ADHD are less likely to attend tertiary institutions.

### 6.2.2 Primary research question

The current research study aimed to answer the following primary research question: *“What are teachers’ experiences of how ADHD may influence learners’ career choices?”*

The participants in this study discussed their experiences and viewpoints of how their learners with ADHD may be influenced when making a career choice. Based on these experiences, they suggested that learners with ADHD have a fear of academic careers that require further study at tertiary institutions. According to the discussions in the focus group interview, these learners’ fear of further academic studies may be due to a lack of confidence in their own academic abilities because of poor academic performance during their school years. In the experience of the participants, the financial considerations of studying at a university constituted another factor that probably influenced a learner with ADHD.

The teacher participants spoke of how their learners with ADHD often have lower confidence and lack self-efficacy, and they thought that these factors had an influence on the type of career paths their learners with ADHD would choose. They also believed that taking medication for ADHD could have either a positive or negative influence on the types of career choices learners with ADHD make.

During the focus group discussions, the participants suggested that, in their experience, learners with ADHD often entered careers of an entrepreneurial nature. They also shared their experience of the fact that the symptoms of ADHD (specifically inattentiveness) influenced the career choices made by learners with ADHD. According to the teacher participants, the way in which a prospective employer was expected to accommodate a person with ADHD also influenced the career choices of a learner with ADHD.

The limitations of the current study will be addressed in the section that follows.

### **6.3 LIMITATIONS OF THIS STUDY**

Since the current research study comprised a single case study, its findings are subjective and cannot be generalised. The researcher clarified the questions used in the focus group interview with her supervisor in a thorough literature overview. Furthermore, because the study was based on only one focus group interview, the validity of the subjective answers provided by the participants may be questioned.

The fact that the researcher's analysis of the data may have been biased could be regarded as an additional limitation of the current study. To address this possibility, an external coder (an experienced learning support specialist) was involved to authenticate the themes and subthemes that emerged from the data. Due to the subjective nature of the study, steps were taken to ensure the quality of the findings (see Section 3.9). However, it remains possible that another researcher could interpret the findings differently, should they conduct the same study.

The participants in the current study were recommended by the principal of the school that served as the research site. This constitutes a form of purposive selection, which could be a concern for bias.

A contextual factor that could also be considered a limitation involves the COVID-19 restrictions which had to be adhered to during the focus group interview. The fact that social distancing and mask wearing were compulsory could have had an influence on the way that participants interacted in the focus group interview.

The ethical considerations upheld in the current study are outlined next.

### **6.4 ETHICAL ASPECTS**

Several ethical aspects (see Section 3.10) that were adhered to throughout the entirety of the study are summarised as follows:

- ❖ Ethical clearance to conduct the study was obtained from the University of Pretoria prior to embarking on the research study.
- ❖ Permission to conduct the research study at the research site was obtained from the necessary persons.
- ❖ All participants provided the researcher with the required written informed consent to partake in the research study.
- ❖ The participants were informed that their participation was voluntary and that they had the right to withdraw from the study at any time, without any consequences.
- ❖ The privacy, confidentiality and anonymity of the participants was maintained and protected. This was done by making use of pseudonyms to protect any possible information that could be used to identify the participants.

The recommendations that emerged from the current study follow next.

## **6.5 RECOMMENDATIONS**

Based on the research findings, the following recommendations are made:

- ❖ Further research should be conducted to expand our understanding of teachers' experiences of how ADHD influences learners' career choices. Such research could include larger and more diverse groups of participants.
- ❖ A comparative study should be conducted so comparisons can be made between a broader range of participants.
- ❖ A survey study should be conducted to examine teachers' experiences of how ADHD influences career choices. Such a study could elicit various viewpoints from a large sample of teachers from various schools.
- ❖ A longitudinal study should be conducted to gain a long-term understanding of teachers' experiences of how ADHD influences career choices.
- ❖ Teachers should receive education and training to enhance their knowledge of the effects of ADHD so that they can advise their learners with ADHD when these individuals make career choices. This will also give teachers a better understanding of how ADHD plays a role in the lives of their learners.

The researcher's personal reflection is presented in the following section.

## 6.6 PERSONAL REFLECTION

When my research journey started, I was extremely excited and motivated. I was chomping at the bit to get going with my research study. I had left an eight-year teaching career to complete my studies and was really looking forward to this new chapter in my life. I was extremely lucky to have the support and encouragement of my husband who gave me the opportunity to become a student again, and fortunate enough to have the support of my both my parents as well. This research study would also not have been possible without my supervisor, on whom I could always count for his professionalism, reliability, and impeccable work ethic.

Unfortunately, at the outset of my research journey, the world was hit by the COVID-19 pandemic. This global pandemic quickly changed the way the world worked and created a 'before COVID-19' and 'after COVID-19'. My husband, father and mother all contracted COVID-19, and my father came very close to losing his life. The pandemic also created a challenge for my research, as I had always planned an in-person focus group interview. However, when I conducted my focus group interview, all the COVID-19 restrictions had to be adhered to.

Regrettably, due to circumstances beyond my control, I was obliged to change supervisors after having completed part of Chapter 2. This experience was extremely difficult and frustrating, and finding myself between supervisors caused feelings of anxiety, as I was unsure that I would be able to finish my study. These feelings were increased by my own challenges as I have ADHD myself. Yet, on a personal and professional level, the change of supervisors helped me to realise my own potential as, despite adversity, I was able to persevere and finish my mini dissertation.

As a person who has ADHD, and having had a long career as a teacher, the idea of asking teachers about their own experiences of the effects of ADHD on their learners' career choices was close to my heart. I have a deep respect for the teacher participants who took part in my study and found their discussions relatable and interesting. Their viewpoints also heightened my awareness of the need to remain objective and not to interpret the findings based on my own experiences.

The current study was a deeply meaningful experience for me because it helped me to validate that I have chosen the correct career trajectory. I am grateful for the chance to have worked with the chosen participants and know that I was able to learn from their experiences. I am elated while writing this last part of my mini-

dissertation. I am grateful for my own perseverance as there were moments when I seriously questioned my ability to finish.

To conclude, I present a brief summary of my research.

## **6.7 SUMMARY**

The study aimed to explore and describe teachers' experiences of how ADHD may influence learners' career choices. ADHD has been thoroughly researched as a childhood disorder and there is ample research available on adult ADHD. However, only limited research exists on the way in which ADHD may influence career choices.

Teachers often play a central role in a child's life when they are diagnosed with ADHD and they have an important duty to support the child in the classroom. For this reason, teachers are a crucial resource when it comes to understanding learners with ADHD. The experiences of the teacher participants of how ADHD influences learners' career choices (as explored in the current study) revealed several meaningful incidents.

Finally, it is my sincere hope that my study will contribute to future research within the field of career-related interventions for learners with ADHD. I conclude this report with a quote that I often remembered in the course of my research journey and that gave me the courage to persevere:

*Success is not final; failure is not fatal: it is the courage to continue that counts.* (Winston Churchill)

## **6.8 EPILOGUE**

I touched base with the teacher participants again a couple of months after completion of the focus group interview and asked them to reflect on the discussion we had. They generally thought that it was a valuable experience and that they were able to learn from one another as well as voice their own opinions. From a teacher's perspective, they felt that there was great value in research on ADHD, especially in South Africa.

The participants furthermore envisaged that the current study should contribute to the body of knowledge on ADHD and that its findings and recommendations could meaningfully assist teachers who work with learners with ADHD.

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## APPENDIX A: Letter from external coder

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13 April 2022

To whom it may concern,

### EXTERNAL CODER'S CONFIRMATION OF RESEARCH FINDINGS

I, Maria Elizabeth Labuschagne, hereby confirm that I acted as an external coder for the dissertation of Ms. Kayleigh Warnock. I reviewed and verified her data analysis and I agree with her findings. I believe that the themes and subthemes as identified in her study, were reported accurately.

Please feel free contact me should any questions regarding this process arise.

A handwritten signature in black ink, appearing to read 'M.E. Labuschagne', written over a horizontal line.

M.E. Labuschagne

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# APPENDIX B: Semi structured focus group interview schedule

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Faculty of Education

Fakulteit Opvoedkunde  
Lefapha la Thuto

## INTERVIEW SCHEDULE FOR GRADE 11 AND GRADE 12 TEACHERS

The following questions will be asked during the semi-structured focus group interview. However, follow-up questions may also be asked based on the participants' responses in order to clarify and expand on their answers.

1. Explain your role in general in providing career guidance to your learners with ADHD?
2. What challenges do learners with ADHD face when making career choices?
3. How does ADHD influence learners' career choices?
4. What factors play a role for learners who have ADHD when making career choices?
5. Which educational outcomes have an impact on career choices for learners who have ADHD?
6. How are the challenges that may influence learners with ADHD concerning career choices overcome?

# **APPENDIX C: Permission letter to conduct research at the research site and sample of Informed Consent Form: School Management Board**

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## **RE: REQUEST FOR PERMISSION TO DO CONDUCT A RESEARCH STUDY**

I, Kayleigh Meggan Warnock, am an educational psychology master's degree student at the University of Pretoria. I hereby request your permission to conduct a research study at the XXX school where you are the principal.

The topic of my research is Teachers' experiences of how Attention-Deficit/Hyperactivity disorder influences learners' career choices. The purpose of this research project is to explore and describe the viewpoints of teachers on how deficit/hyperactivity disorder (ADHD) influences learners' career choices. Career choices are generally defined as a process where a person categorizes information, considers other possibilities, and then ultimately makes a commitment to a specific career or career path. The research project has obtained ethics approval from the University of Pretoria ethics committee.

This research will involve a semi-structured focus group interview with five to eight teachers who teach Grade 11 and Grade 12 learners at XXX. If you, as the principal of XXX high school, consent to the research study being conducted in the school environment, I am hoping that with your guidance, possible participants can be identified. The participants may be identified based on the following criteria: the participants are voluntary participants who have given informed consent, are able to speak English and teach Grade 11 and Grade 12 learners.

Once possible participants have been identified I will invite the participants to an information session so that the research study can be explained. This will be done by providing the participants with all the relevant information regarding the research project. During this information session the participants will also be afforded the opportunity to ask any questions. Additionally, they will receive the informed consent letter which will detail all the relevant information about the research. The informed consent letter will explain that participation is voluntary and that the participants will not be receiving any form of



compensation for their participation. The informed consent letter will additionally state that the participants have the right to withdraw from the research study at any point and that there will be no implications to the participants if they choose to withdraw.

The participants will be asked to participate in a semi-structured focus group interview. The focus group interview will be conducted in one group of teachers and should last between 60 to 90 minutes. The semi-structured focus group interview will be guided by an interview schedule. However, the participants may be asked to elaborate on their answers. The interview will be captured by means of an audio-recording device which will be transcribed for data analysis purposes. The researcher will make use of a research journal throughout the research process for self-reflection.

In the evaluation of this research study, the potential risks that apply to all research studies will be taken into consideration. The categories that are considered include the psychological risks, economical risk, physical risks, legal risks, and the loss of confidentiality. In the consideration of the aforementioned risk categories, the conclusion is that this research study will present “no more than minimal risk” to the participants in following categories: The physical risks to the participant in terms of possible pain, injury or disease; the economic risk to the participants when considering research activities that may result in financial loss; the legal risk such as the risk that the participants may be in violation of the law or the requirement of the participant to become involved in any criminal or illegal activity; the loss of confidentiality in terms of the participants’ personal details; the psychological risks to the participants in terms of connecting the data findings to their self-worth or self-efficacy.

The definition of “No greater than minimal risk” as “the probability and magnitude of harm or discomfort anticipated in the research, are not greater than those ordinarily encountered in daily life or during the performance of routine physical and psychological examinations or tests where confidentiality is adequately protected.” This type of risk requires minimal intensity monitoring (TraCS Institute, 2008). Minimising the risk of harm to participants will be managed by ensuring that the participants are informed comprehensively prior to their agreement to be involved in the research study. The participants will be given an informed consent letter which will explain that the participant’s personal details will be kept confidential, and anonymity will be guaranteed as the data will not be linked to their personal details. These personal details will only be known to the researcher and her supervisor and will not be included in the mini dissertation.

The psychological and physical risks will be minimised as the informed consent letter will make it clear that the participants can withdraw from the research study at any time and the participants can choose not to answer questions that make them uncomfortable. There will be no cost for the participants in this research study which indicates the economic risks to the participants is low. This will also be explained in the informed consent letter.

The participants selected for this research study are regarded as knowledgeable within their field of special needs education. By agreeing to be a participant in the research study, the teachers will be making a contribution to the knowledge and current understanding of the field. Their knowledge may be beneficial to other researchers in the same field of study. The participants may identify themselves as valuable sources of information by contributing to the knowledge base of this research study.

The benefits to the academic community will be that understanding teachers' viewpoints on how ADHD may impact learners' career choices will contribute to an important area of research. Investigating the knowledge and viewpoints that teachers may have with regards to how learners who have ADHD participate in making career choices, underpins the rationale for the research study. Furthermore, the knowledge obtained from this research could provide information which would aid future research about career choices concerning individuals with ADHD.

Your kind consideration of the proposal is appreciated, and I look forward to receiving your decision in this regard. Please feel free to contact me if I can be of any further assistance. My contact number is XXX and my email address is XXX

Yours faithfully  
Mrs. Kayleigh Warnock

Approved by  
Principal of XXX

Signature

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Date

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# APPENDIX D: Letter of information of research study and sample letter of informed consent form for participants



## Information-consent letter to participate in a study titled: *Teachers' experiences of how attention-deficit/hyperactivity disorder may influence learners' career choices*

### Dear Prospective Participant

I, Kayleigh Meggan Warnock, am an educational psychology master's degree student at the University of Pretoria working under the guidance of Professor Kobus Maree. I hereby wish to invite you to participate in a research study where I am the principal investigator. The research will focus on teachers' experiences on how attention deficit/hyperactivity disorder (ADHD) may influence learners' career choices

To help you make an informed decision regarding your participation, this letter offers information about the study. Before you agree to take part in this study, you should fully understand what is involved. If you have any questions, which are not fully explained in this document, do not hesitate to ask the investigator. You should not agree to take part unless you are completely comfortable about what will be discussed during the focus group interview.

### What is the study about?

The purpose of this research project is to explore and describe the experiences of teachers on how ADHD influences career choices of learners with ADHD. Career choices is generally defined as a process where a person categorises information, considers other possibilities and then ultimately makes a commitment to a specific career or career path.

### I. Your responsibilities as a participant

#### What does participation involve?

If you consent to be a participant in this research, you will be asked to participate in a semi-structured focus group interview with five to eight teachers who teach Grade 11 and Grade 12 learners.

The semi-structured focus group interview will be conducted in one group and should last between 60 to 90 minutes. The semi-structured focus group interview will be guided by an interview schedule. However, you may be asked to elaborate on your answers. The interview will be captured by means of an audio-recording device which will be transcribed for data analysis purposes.

Additionally, you will also be asked to be involved in member checking. This means that you will be asked to check the accuracy of the interpreted data. This will be done by sending you a copy of the data analysis and documentation chapter so that you may validate the accuracy of the way in which information has been interpreted.

### **Who may participate in the study?**

In order to participate in this research study, you should be a voluntary participant who has given informed consent; is able to speak English and teaches Grade 11 and/or Grade 12 learners.

## **II. Your rights as a participant**

### **Is participation in the study voluntary?**

Your participation in this study is voluntary. You may decide not to consent to the study at all or to leave the study at any time or to withdraw from the study. Additionally, you may stop at any time during the focus group interview without giving a reason. Not consenting to or withdrawing from the study will have not have any implications for you.

### **Will I receive anything for participating in the study?**

You will not receive any payment in exchange for your participation in the study. However, I wish to thank you in advance for your time.

### **What are the possible benefits of the study?**

Although there are no personal benefits to you for participating in this study, you as a participant has been selected for this research because you are regarded as knowledgeable within your field of education. By agreeing to be a participant in the research study, you will be making a contribution to the knowledge and current understanding of the field. Your knowledge may be beneficial to other researchers in the same field of study. You may be a valuable source of information by contributing to the knowledge base of this research study.

The benefits to the academic community will be that understanding teachers' experiences on how ADHD may impact learners' career choices will contribute to an important area of

research. Investigating the knowledge and experiences that teachers may have with regards to how learners who have ADHD participate in making career choices, underpins the rationale for the research study. Furthermore, the knowledge obtained from this study could provide information which could aid future research about career choices concerning individuals with ADHD.

### **What are the risks associated with the study?**

In the evaluation of the potential risks for this research study the risks that apply to all research studies were taken into consideration. The categories that were considered include the psychological risks, economical risk, physical risks, legal risks and the loss of confidentiality. In the consideration of the aforementioned risk categories the conclusion was that this research study presented “no more than minimal risk” to the participants in following categories: The physical risks to the participant in terms of possible pain, injury or disease; the economic risk to the participants when considering research activities that may result in financial loss; the legal risk such as the risk that the participants may be in violation of the law or the requirement of the participant to become involved in any criminal or illegal activity; the loss of confidentiality in terms of the participants personal details; the psychological risks to the participants in terms of connecting the data findings to their self-worth or self-efficacy.

The definition of “No greater than minimal risk” as “the probability and magnitude of harm or discomfort anticipated in the research are not greater than those ordinarily encountered in daily life or during the performance of routine physical and psychological examinations or tests where confidentiality is adequately protected.” This type of risk requires minimal intensity monitoring (TraCS Institute, 2008).

### **Will my identity be known?**

Your participation in this study, and the data collected will be treated as confidential. All the data that are utilised for publication in a mini dissertation (unless if you expressly indicate that you want to be identified in this study).

### **Will my information be kept confidential?**

All records from this study will be regarded as confidential. The information you share will be kept confidential by linking your answers to a pseudonym (another name) so that individual names are not associated with the data. All information collected during the focus group interview will be kept together.

- Your information will be securely stored (for example, in a locked research office, at the study site, on a password protected computer).
- Any data that will be stored on a mobile device (for example, laptop, tablet, etc.) will be encrypted.
- Research data will be retained for minimum of 15 years at which time it will be shredded/ destroyed.
- Only my supervisor and I will have access to the research data.

### **III. Questions, comments, or concerns**

#### **Has the study received ethics approval?**

This study has been reviewed and received ethics approval through the Faculty of Education Research Ethics Committee (Approval No EDU097/20) at the University of Pretoria. If you have questions for the Committee, contact the Chair of the Ethics Committee, Professor Funke Omidire at funke.omidire@up.ac.za or 012 420 5506.

#### **Who should I contact if I have questions regarding my participation in the study?**

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please contact Mrs Kayleigh Meggan Warnock on 0833042892 or email kayleigh.warnock88@gmail.com

#### **References:**

TraCS Institute. (2008). Clinical and Translational Research Center Protocol Risk Assessment and Monitoring Guidelines. TraCS Institute: [https://tracs.unc.edu/docs/regulatory/CTRC\\_Protocol\\_Risk\\_Assessment\\_Guidelines](https://tracs.unc.edu/docs/regulatory/CTRC_Protocol_Risk_Assessment_Guidelines)  
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## **APPENDIX E: Researcher's reflective journal**

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### **September 2021- Meeting my new supervisor**

I met with my new supervisor, and we spoke about the way forward with regards to my mini dissertation. We agreed on a plan of how we would go about drafting my chapters and how he would provide feedback.

### **December 2021- Permission to conduct research at the research site**

I contacted the principal of the research site and asked for permission to conduct my focus group interview at the school. The principal and I had a meeting, and we discussed my research and what it entailed. The principal agreed to allow me to conduct my research at the school. We agreed to be in contact once the schools returned for the December holidays to arrange the focus group interview after schools returned.

### **March 2022- Focus group interview**

I went to the focus group interview not knowing what to expect but the participants were on time and eager to get going. The process of getting participants for the focus group interview went well. The principal arranged everything, and the participants were informed of a date and time. I had five participants who agreed to partake in the focus group interview which ran for 60 minutes. All the participants provided informed written consent to partake in the interview. The teachers seemed eager to provide their viewpoints and opinions. The focus group interview was very interesting, and the participants provide rich data during the interview. The participants all provided in-depth answers to the questions which were posed from the interview schedule. I occasionally asked them to elaborate on their answers, but this was not always necessary when they provided answers this often naturally gave way to further discussions. The teachers all seemed knowledgeable on ADHD and how it can influence a learner in the classroom environment.

### **March 2022- Transcription**

The transcription of the focus group interview is a tedious process. Many hours have gone into transcribing the focus group interview and it took around a month to complete the transcription.

**April 2022**

The data analysis phase was a long challenging process. I had to identify my themes and subthemes. I had to read and reread my data several times to develop initial codes and then identify themes. Once I had completed this I had my themes and sub-themes analysed by an external coder to authenticate them. After this I had to rework some of my themes and subthemes. Once the data had been successfully analysed, I had begun work on chapter 4.

**May 2022**

I sent off my first draft of chapter 4 which was the data analysis phase to my supervisor for his notes and approval. Shortly following this, I sent off my first drafts of chapter 5 where I related my findings to the literature to my supervisor.

**June 2022**

I had successfully completed the final drafts of both chapter 4 and chapter 5 and these were approved by my supervisor. Now I will begin writing chapter 6 once I have completed chapter 6 all my chapters will be put together and be sent off for language editing. I am close to the finish line now.



## APPENDIX F: Extract from transcripts

The table below represents the interview transcripts where the initial codes and subthemes are indicated with the correct colour and code number.

Participant numbers	Focus group interview transcription	Initial code
Researcher	Okay, so I'm going to start with the first interview question. So, I will ask you to explain your role in general providing career guidance to your 3learners with ADHD.	
Participant 1	Okay I will start then I don't think I have a specific role as I am an English teacher. But I have a huge interest in psychology. I've done my honours in psychology, and it is my desire to do my masters. But that's, for me, my interest in this. But apart from that, in my subject, we talked to the kids about everything, lots and lots of topic. Topics and careers come up but I can't think that I've actually had a specific conversation with a child who has ADHD who's asked me, you know, am I going to, cope with ADHD there I've found that those who have ADHD some of them particularly boys, I am generalising actually, they hide from studies they don't want to, because obviously, it's an issue and so their academics, they start slipping, that obviously, and it affects their self-confidence and I think ADHD itself is just a stigma with kids. And they see that as a barrier straightaway, I've got it that it I am done and it's scary to think that ya.	CO1.1 Aversion to tertiary education 1.1 fear of academic careers of tertiary education: CO 1.1.1
Participant 2	I think to add to add to that I'm the LO teachers so I'm very involved with career guidance, to try and figure out what they would like to study eventually, like what their marks, allow them to do but I do kind of agree with P1 I actually know only when you mentioned it noticed it, that's a lot of times kids are telling you no, no, I am not sure what I want to do. And you're like, Okay, that's fine that's fine. But now if I start thinking about who actually tells me they do not know what to it is a lot of times the students with ADHD and usually it is that fear of will I be able to cope at university because I'm not going to be coping on school level, it's going to be more intense. So, I think there is definitely a fear of what careers are going to do. And I think they do have a tendency to try and shy away from any sort of academic career careers that requires a bit more cerebral attention to they would rather than to do something with their hands or start a business,	CO1.1 Aversion to tertiary education 1.1 fear of academic careers of tertiary education: CO 1.1.1

	which I mean, is good if they can do it. But the fear of academia is far stronger. Study stuff like that, you know.	
Participant 3	what I think the role should be is to identify the strengths and the weaknesses and guide them to certain various possible career options. I think that is what the goal should be. I don't really have I think my subject doesn't lean towards careers because I am the maths teacher. So, in general, yes. If they do ask me what they can study with mathematical literacy, then yes, I can guide them in that but but other than that, I don't really have, I think the knowledge about ADHD to tell them what they should or shouldn't do. The only thing is to try and guide them as to not pick and choose a career that requires eight hours of sitting down at a desk and concentrating.	CO4.1 ADHD symptoms influence career choices
Researcher	So, if they do come ask you would you suggest that?	
Participant 3	No, I wouldn't be that blunt just maybe give a certain, ask them what they what they want to do and then obviously, if it's something that's not going to be suited to the ADHD thing, then maybe guide them to give them other options. Ya not like you have ADHD you can't do that thing	CO4.1 ADHD symptoms influence career choices
Participant 1	They think I've got ADHD, I can't and think it's no you have to um while I was thinking does your does your study have to do with kids who are on medication because that makes a huge difference is.	CO2.1 2.1 Medication may have influence on career choices 2.1 Medication for ADHD may have a positive influence on career choices CO2.1.1
Researcher	Its either its ADHD in general	
Participant 3	um I mean you obviously medication will not suit all of the kids, but I have seen good results and those kids are then able to get over that fear that barrier and then I have had ADHD kids who've gone to university and who have performed um well. I think it's got so much to do with how they manage it themselves and medication comes into that.	CO2.1 2.1 Medication may have influence on career choices 2.1 Medication for ADHD may have a positive influence on career choices CO2.1.1

Researcher	That's very interesting so you see it as something that might guide children afterschool.	
Participant 1	Yes	
Participant 3	But then do you think people are sometimes easily diagnosed as being ADHD and is not actually ADHD is there a naughty child busy, child and then they have ADHD	
Participant 4	I recently started to wonder, and I get a little bit off topic, but depression, and undiagnosed depression or even diagnosed depression often looks the same for me. Because procrastinating I mean procrastination is a symptom of ADHD. So those come up in my class but in terms of career guidance, I have this. We have a learner in matric, so we have an interesting discussion with a class of five learners only, so we often go off topic in terms of subjects. And um it came up with the one girl her mother is a psychologist, so she's very against every second child and being on medication, because it seems to be a fashion thing as well especially in people that might have choices. And I don't know so she was, basically, I don't want to say attack but she was challenging the boys in the boys in the class because three, they are five, three of them are on medication and the one said, (name) is not always on it it's when it's typically what students do is when they really need to focus and she said but it's not right you can't do that. And I'm worried about the side effects. And what's interesting about this class specifically, and that's what when you say, how do we provide career guidance, I think it depends on are they high functioning?	CO 1.1.1 fear of academic careers of tertiary education
Participant 4	Yeah, very academic, strong academic. All of them are academically strong in that specific class. But she was just challenging them and then I start to think I do agree with her, and they seem to I don't know this one boy. He's not in my mind, I never would have thought he was ADHD but now I've learned from that class discussion that he does go on and off, is not strong as like, is trying to validate. Then I have another one boy in that same class, extremely intelligent, I've even wondered if he's not on on the spectrum of Asperger's, because he never forgets he knows everything. He can interrupt us and is encouraged as a new thing is it constantly plays with a Rubik's Cube, you know, I think you know who I am talking about that and but that bothers some teachers and I because my class is so small, its fine. You can play with your	CO 1.1.1 fear of academic careers of tertiary education  3.1 ADHD learners may follow similar careers to their parents CO3.1.1  2.1 Medication for ADHD may have a positive

	<p>rubrics cube, but you hear it and that's the thing that's irritating. But he said, and he's very high functioning. So, I do not have to go and go into studying structural engineering or something like that. His father is an engineer or architect now of the I am a bit unsure, but he is going to go into engineering like his dad. But he said he's on the strongest dose possible. And he is he is not struggling because he is managing it. But it is not calm and dead, like some of the medication does to certain levels at all. And he said he's on the strongest medication.</p>	<p>influence on career choices CO2.1.1</p>
Participant 4	<p>And then I spoke to him about the I said, obviously, you can study, you've proven it the here you know, university is going to be hectic especially the difficult course you are going into, how are you going to manage that? Because when I find that, he can easily do the basic in my class, but he doesn't because he's too fast he is ahead of the questions or whatever. So not he is not doing bad at all, is doing 80 Plus, but he knows more than the others. And so, we had that kind of discussion. How are you going to manage volumes of work? When you can't think ahead, he is too far ahead. You will overthink questions. So just calm down. Don't overthink it. Is as straightforward as it is. And I think that's more that it's not career guidance such as how to manage the workload than this I need to do for university.</p>	<p>CO 1.1.1 fear of academic careers of tertiary education</p>
Participant 4	<p>Actually, I didn't do any research before we came here. But I wanted to look up the side effects of I don't know which medication he is on because he was now diagnosed with arthritis you see I and I was wondering; it was he told me the same week that we said he was on the highest does possible. I'm thinking, could this be a side effect? This is damaging. Is there another way to cope with life? But this is a little bit outside. But it's more of this.</p>	<p>2.2 Medication for ADHD may have a negative influence on career choices CO2.1.2</p>
Participant 3	<p>That is more question 6</p>	
Participant 4	<p>Ya, oh is, ya, not overthinking or not jumping? If you are very academic</p>	
Participant 1	<p>Maybe because that the medication is wiring his brain, this that makes him</p>	

Participant 4	well, I don't know I thought because he was on such a high medication that he is calmer, but he is not calm at all. But he's not disruptive. It's just his mind is different	CO2.1 Medication may have influence on career choices 2.1 Medication for ADHD may have a positive influence on career choices CO2.1.1
Researcher	Do you find he is better on the medication than when he is off his medication?	
Participant 4	He has never been off the medication, so I don't know what that looks like um there are learners that I believe I don't know if they are on because they don't ever take life seriously wants to play all of the time. Yeah, those people are very difficult to guide in a way, career wise, whatever because they just playing.	
Participant 1	I think some of them because they are going to do what their parents do you that do their parents did, what they did	CO3.1.1 ADHD learners may follow similar careers to their parents
Participant 4	Ya I think many of our children have family businesses int the family. So, they don't have to.	CO3.1.1 ADHD learners may follow similar careers to their parents
Participant 5	For me, if I have to answer this question, I would say I don't have a role, because I really try not to put my kids in boxes. So, I'm know I have ADHD kids, but I am not specifically going to say, no but, you have to do this. And you have to do that. Because rather obviously, we want to have ADHD, but the other one has another learning barrier. And there's so many different types of barriers specifically, I wouldn't say I haven't really gotten involved in that. If that is specifically anyone that comes to me, I will guide them. But it's so difficult to answer because it's so wide, because it really depends on the type of child. Like we just said about one's like this and one is like that and so with ADHD specifically, yes, there's such a range. I even seen out with my son's friends that's been diagnosed already when they are seven years old now so so different how it plays out. So, I think of	CO 1.1.1 fear of academic careers of tertiary education

	all with ADHD, and that's what why we went out and started I told you now we have that we can talk about barriers, because we do not know enough about the barriers so forth. If you asked me now about ADHD, can you extensively talk about it, I can't because as teachers, you can have a gap with that. I think when we studied, we do not get into all of these things in details.	
Participant 5	So, role wise, for me, if there is a child that specifically comes to me to ask me, I would say somebody like participant 2, who specifically teachers LO. I taught LO in other years. Yes, definitely then I would maybe go into that in more detail. But also, not really because overall I think all of us are not trying to box them how do you say label the kids because it's a big issue now. And kids get really offended easily that there's some of my topics that have to teach now that we actually taken out of the curriculum, because of the things we cannot talk about the body functions because between the kids get offended because they say that same certain body types are now wrong or should be looking a certain way anyway to enhance this type of body type, but not this stuff, which I kind of agree with. It's true. And so I think we're so busy trying not to label the kids to much even though as teachers you can be, we are very aware of which kids we do have with ADHD the one I have I have seen a lot of hassles, but he's never, ever asked about careers is not very interested in that. He said, I think he's just trying to get through school. They not very academically, focused at all more practical and unpractical subjects I should be encouraging more by just not even so much interested in the practical side of the subject.	1.2 Aversion of a career choices due to belief of competency and lack of self-efficacy: CO 1.1.2  CO 4.1.2 ADHD learners make career choices that are entrepreneurial or practically orientated
Participant 3	when I looked up ADHD and careers, they said the most interesting jobs like policemen and firemen, that ER paramedics, teachers. Those are the careers for people with ADHD because of the adrenaline that keeps your mind focused because you need to make quick decisions.	CO 4.1.1 Symptoms of inattentive ADHD may influence career choices
Participant 1	And then short burst, which is good for an ADHD person, focus all their attention for a little bit, and then move on to something else.	CO 4.1.1 Symptoms of inattentive ADHD may influence career choices