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Perceptions of support among university students diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD)

Zarius Grove

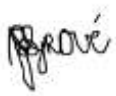
Supervisor: Professor Zaytoon Amod

A research report submitted to The Department of Psychology, The School of Human and Community Development, Faculty of Humanities, University of Witwatersrand, in partial fulfilment of the requirements of the degree of Master in Education (Educational Psychology)

Johannesburg, South Africa Date: February 2021

DECLARATION

I declare that this research is my own, unaided work. It has not been submitted before for any other degree or examination at this or any other university. All sources have been correctly referenced using the APA format of referencing.



_____ _____

Zarius Grove

Date: February 2021

Master in Education (Educational Psychology)

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ABSTRACT

This study explored the perception of support of university students diagnosed with ADHD. It aimed to add to the limited existing research exploring university students' perceptions of support. The study specifically aimed to highlight support utilised in the South African context. Eight participants were recruited for the present study: six males and two females. Seven participants were between 18 and 25 years, and one participant was older than 25 years. Non-probability purposive sampling methods were used to select candidates. The participants were from three institutions of higher education. The themes that emerged from the data analysis suggest that ADHD medication was the main form of treatment. Participants perceived this form of support to be effective in helping them to focus but expressed physical and socio-emotional side effects. Furthermore, participants indicated that they did not utilise psychosocial support systems and relied on themselves for support. Participants who did use psychosocial support expressed mixed perceptions. Participants also discussed the academic interventions they utilised in relation to their ADHD and their perceptions of this support. A need was expressed for tutorials and support groups, as well as greater social awareness about ADHD in the university context. The implications of the study and future directions are discussed.

Keywords: *ADHD, perception of support, university students*

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LIST OF ACRONYMS

APA	American Psychiatric Association
ADHD	Attention-Deficit/Hyperactivity Disorder
CBT	Cognitive Behavioural Therapy
CCDU	Counselling Careers and Development Unit
DRU	Disability Rights Unit
ICF	International Classification of Disability and Health
HREC (non-medical)	Human Research Ethics Committee (non-medical)
ISIM	Individualised Strategy Instructions Model
LDC	Learning Disability Coordinator
PIS	Participant Information Sheet
SADAG	South African Depression and Anxiety Group
TLE	Temporal Lobe Epilepsy
WHO	World Health Organization

CHAPTER 1: INTRODUCTION

Chapter 1 provides an overview and the rationale of the study, including a discussion on the aim of the study, orientation and the research rationale. After that, the research questions are discussed, followed by a summary of the research report.

1.1 Aim and Overview of the Study

This study aimed to explore the perceptions of support of university students who have been diagnosed with Attention-Deficit/Hyperactivity Disorder (hereafter referred to as ADHD). It sought to identify the support systems that students utilised and their perceptions of these support systems. Furthermore, the study explored the areas where the students expressed a need for additional support, as discussed in George Engel's (1977) biopsychosocial model that considers both biological and psychosocial aspects.

Research on ADHD in university students has increased since the 1990s (Green & Rabiner, 2012). However, it remains limited compared to studies conducted on children, adolescents and adults. This is especially true for those studies that evaluate university students' perception of ADHD treatment (Green & Rabiner, 2012). Engel's biopsychosocial model (1977) identified specific support systems in the literature. The biopsychosocial model approaches ADHD treatment holistically by examining the biological aspects (e.g., stimulant medication), psychosocial aspects (e.g., Coaching, Cognitive Behaviour Therapy (hereafter referred to as CBT), Mindfulness Training) and academic accommodations (e.g., additional time, distraction-free test venues, tutoring). The research investigating the individual's perception of these intervention strategies focuses mainly on adolescents and adults. However, there is minimal research available to determine how university students with ADHD perceive the support they receive at this developmental stage in their lives.

The treatment that adolescents and adults regard as valuable may not necessarily be perceived as useful by university students. For example, university students require medication that manages symptoms for longer periods than covered by long-acting stimulants (Green & Rabiner, 2012). Fleming and McMahon (2012) assert that university students face unique circumstances in that they enter a period that marks a loss of parental support and increased self-directed academic work. Therefore, more research is required in this specific target group to determine their views on the effectiveness of the support they receive at this developmental stage in their lives.

1.2 Rationale for the Study

Limited empirical studies exist that investigate university students' perception of psychosocial treatments (Green & Rabiner, 2012). The majority of research conducted among university students focuses predominantly on the association between support systems and students' academic success (Gregg & Nelson, 2012; Jansen et al., 2019; Ofiesh et al., 2015). However, there is a paucity in research exploring students' views of support related to their socio-emotional wellbeing. Furthermore, documented South African research on university students' perceptions of support systems for ADHD could not be sourced.

The current study intends to highlight the support systems utilised in the South African university context and consider how university students perceive them in light of international research. This research could add to the field of educational psychology, specifically physicians, university lecturers, disability services coordinators and psychologists working with these students diagnosed with ADHD. It seeks to provide insight into the management of ADHD for university students, specifically concerning academic support, accommodations, medical intervention and socio-emotional support. Additionally, the study could contribute to the minimal literature exploring university students' perceptions of support and provide more insight into how university students perceive support in a South African context.

1.3 Research Questions

Various studies have evaluated adolescents' and adults' perceptions of support in relation to their ADHD diagnosis; however, there is little existing data investigating the perception of support among university students. Hence, this study aimed to explore university students' perceptions of support in relation to ADHD. More specifically, the research questions were as follows:

1. What support systems do university students utilise?
2. What are students' perceptions of the support that they receive in relation to their ADHD?
3. In what areas do university students think that they require additional support?

1.4 Summary of Research Report

Chapter 2 discusses the current literature on the support systems available to university students diagnosed with ADHD. The conceptual framework of this study is located in Engel's (1977) biopsychosocial model further elaborated in Chapter 2. Chapter 3 discusses the research methods, specifically the research design, the type of sample and sampling procedures, as well as ethical considerations. Chapter 4 presents the findings of the research study. Chapter 5 reviews the research results and considers the implications of the findings, limitations of the study and recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

Chapter 2 will provide an overview of ADHD in terms of its aetiology and how it impedes human functioning. A brief outline illustrates the prevalence rates of the disorder among university students and some of the comorbid disorders associated with ADHD. The biopsychosocial model will be discussed as the theoretical framework for the study. Literature highlighting support systems available in childhood and adulthood is examined to illustrate the differences and similarities between these contexts and the circumstances of a university student with ADHD. Also, the literature on students' perceptions of university environments and their challenges in relation to their ADHD will be reviewed. Finally, there is an overview of the support systems utilised by university students within the biopsychosocial framework. Research on students' opinions of these support systems will also be discussed.

2.1 Introduction

In order to explore university students' perceptions of support, the aetiology of ADHD must be understood, and how treatment is designed to treat symptoms, provide coping strategies and improve overall wellbeing. The American Psychiatric Association (hereafter referred to as APA) (APA, 2013) categorises ADHD as a neurobiological disorder, characterised by inattention and/or hyperactivity and impulsivity and its aetiology is known to have neurological and genetic underpinnings (Sadock et al., 2015; Pham, 2015). According to Sadock and Sadock (2003), the age of onset may be in infancy but it is rarely recognised until at least a toddler age. In the United States, the median age of ADHD diagnosis is seven years; one-third of children are diagnosed before six-years-old (Visser et al., 2015). Attention-Deficit/Hyperactivity Disorder impedes age-appropriate functioning and development and interferes or reduces the quality of social, academic and occupational functioning (APA, 2013). Children who have six or more of the symptoms in either subtype can be diagnosed with ADHD. For adolescents and adults (17 years and older), five or more symptoms need to be present (See Appendix 7).

Attention-Deficit/Hyperactivity Disorder rarely exists in isolation, and most people diagnosed with ADHD have at least one more comorbid disorder (APA 2013; Geissler & Lesch, 2011; Sadock et al., 2015). This includes mood and anxiety disorders, substance use disorders, personality and learning disorders (Katzman et al., 2017). According to Sadock et al. (2015), many adults with ADHD have a secondary depressive disorder associated with low self-esteem due to impaired performance, which can negatively impact their social and occupational functioning. What complicates matters further is that some symptoms are

shared by both ADHD and comorbid psychiatric conditions (Milberger et al., 1995). The overlap of ADHD symptoms and the signs of some mood disorders are difficult to distinguish, whereas the distinction between ADHD and anxiety disorders is less problematic (Sadock et al., 2015). Indications are that ADHD and manic episodes of bipolar disorder may overlap with symptoms of distractibility, restlessness, talkativeness and loss of social inhibition (Udal et al., 2014).

The rates of ADHD are estimated to be between 60 and 85 per cent in adolescence and 60 per cent into adulthood (Sadock et al., 2015). Between two and eight per cent of college students, and 25 per cent of college students with disabilities are diagnosed with ADHD (DuPaul et al., 2009). The most frequent challenges reported by students with ADHD in higher education include difficulty sustaining and focusing attention, frequent daydreaming, difficulty completing tasks and planning and organising (DuPaul et al., 2009; Jansen et al., 2017). Despite the increasing number of students with ADHD enrolling in higher education, their chances of graduation remain low (Jansen et al., 2017).

Numerous studies indicate the importance of considering the biopsychosocial model when designing a treatment programme for individuals with ADHD. This is because ADHD is recognised to be equally determined and influenced by multiple external and environmental factors and biological factors (Pham, 2015; Salamanca, 2014). Therefore, the biopsychosocial model has been selected as the appropriate theoretical framework to evaluate current support systems as perceived by university students diagnosed with ADHD.

2.2 The Biopsychosocial Model

George Engel (1977) was the first to propose the biopsychosocial model as a holistic alternative to the biomedical model to treat disabilities. In this approach, attention is paid "to the biological, psychological, and social dimensions of illness" simultaneously (Borrel-Carrió et al., 2004, p. 576). Although ADHD's aetiology is known to have neurological and genetic underpinnings (Sadock et al., 2015; Pham, 2015), human functioning does not only refer to biological components. Multiple external and environmental factors can exacerbate clinical manifestations and comorbidities in different contexts (Salamanca, 2014). The International Classification of Disability and Health (hereafter referred to as ICF) of the World Health Organization (hereafter referred to as WHO) (2002) identified three components to define human functioning: 1) body function and structures, 2) activities and 3) social participation as illustrated in Figure 1. All these components interact with contextual, personal and environmental factors that determine human functioning. Contextual factors include external environmental factors, for example, social attitudes towards ADHD, and internal personal

factors such as gender, age, social background, coping styles, past and current experience of living with ADHD and other factors that influence how ADHD is experienced by the individual (Salamanca, 2014).

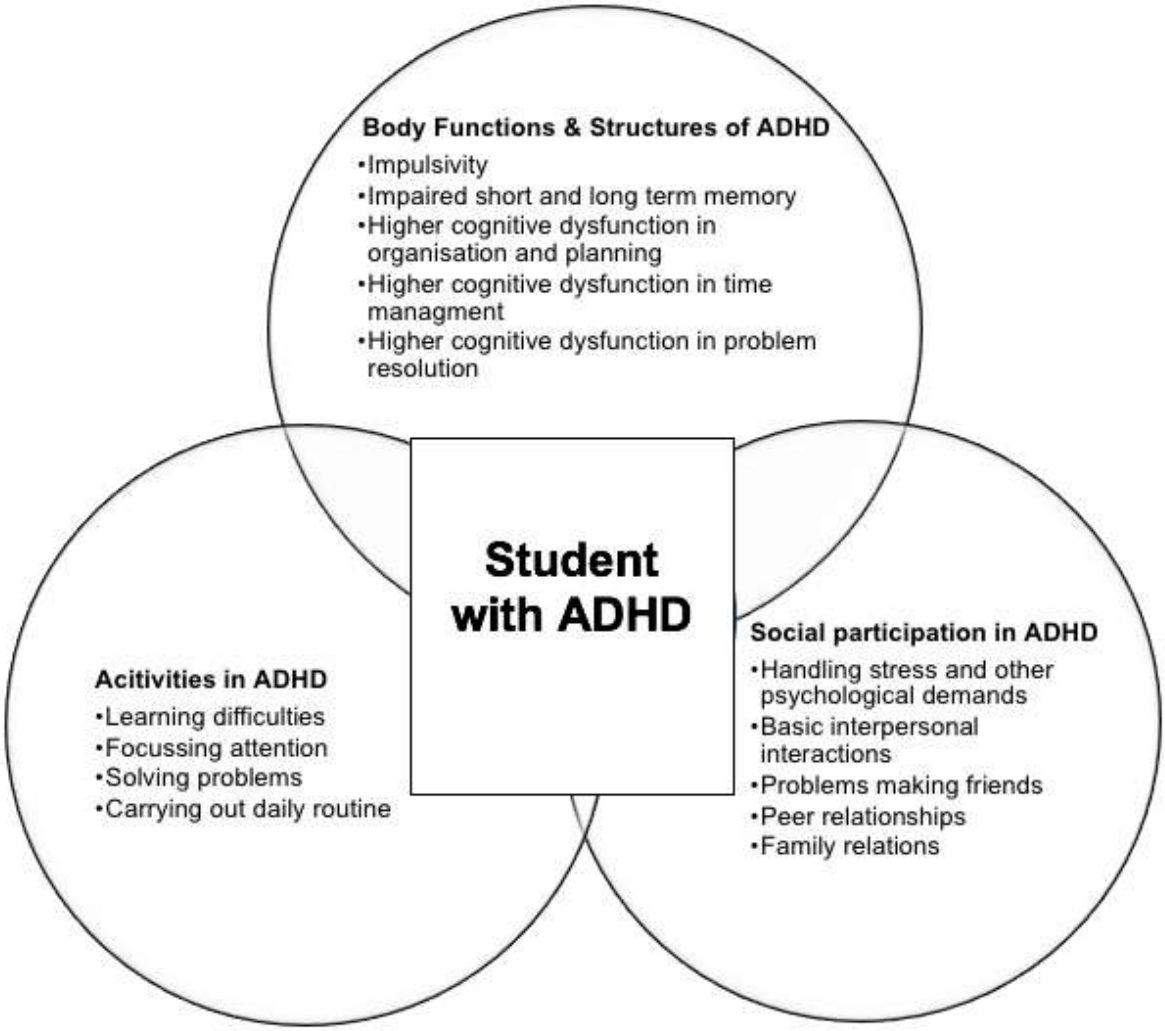


Figure 1: The biopsychosocial model of human functioning in relation to the student with ADHD. Adapted from Salamanca (2014, p. 4).

Figure 1 illustrates the biopsychosocial model's three components influencing how a student with ADHD functions. The body function and structures refer to physiological factors, for example, impulsivity and higher-order cognitive functions. Learning challenges and difficulties with problem solving and maintaining a daily routine form part of the "activities" component. The social participation component refers to the student's interactions with their peers, friends and family (Salamanca, 2014). Pham (2015) extends the biopsychosocial model by emphasising the importance of understanding how culture influences the

assessment and treatment of ADHD, especially in those cultures that assume a negative and stigmatised view of disorders and its treatment. Therefore, it is essential to consider the individual's race, ethnicity, socioeconomic status, cultural factors, family stress and dynamics when designing treatment for individuals diagnosed with ADHD (Pham, 2015). Thus, the treatment of ADHD should aim to reach all components of human functioning on a biological and psychosocial level (Salamanca, 2014).

The ICF refers to the biopsychosocial model as more useful when assessing and treating a disability as it combines the reality of the medical and social models without reducing the complexity of the disability to one of its aspects. Current research shows that neither pharmacotherapy nor psychotherapy, provided as interventions in isolation, is sufficient to stabilise adults' many problems with ADHD (Schoeman & Liebenberg, 2017). Therefore, the authors argue that a combination of pharmacological and psychosocial interventions are the most superior approach. However, Kern et al. (2015) argue that prevalent interventions do not necessarily address the biological, psychological, and social systems that influence the cause of ADHD. Current support systems and their efficacy as perceived by individuals diagnosed with ADHD are discussed in light of the biopsychosocial model.

2.2.1 The Biopsychosocial Approach in Childhood ADHD

There is well-documented research on the treatment of children and adolescents diagnosed with ADHD. Numerous studies have shown a combination of medical treatment and psychosocial treatment to be the most effective in relieving symptoms and reducing impairments in children with ADHD (Ahmann et al., 2017; Goldstein, 2004; Steer, 2005; Tresco et al., 2010). Steer (2005) identified the cornerstones of a multimodal approach in treating children with ADHD as psychoeducation, psychosocial, and behavioural strategies, social support, educational strategies, and appropriate support in school as well as psychopharmacotherapy in the form of stimulant medication.

Psychosocial interventions include behavioural management and academic intervention (Tresco et al., 2010), and parent-treatment in the form of psychoeducation and assistance in supporting parents with ADHD children (Pham, 2015). Currently, medication treatment alone is more common among children with ADHD than either psychosocial treatment or a combination of medication and psychosocial treatment (Ahmann et al., 2017). However, some parents are reluctant to choose psychopharmacological treatment due to its cost, side effects, stigma and the age of the child (Pham, 2015). Whether school-based or home-

based, any support or treatment relies heavily on a parent-teacher partnership to assist the child with ADHD (Tresco et al., 2010).

2.2.2 School-based and Home-based Support

In the classroom, the child's behaviour is managed by setting clear rules and expectations and reinforcing adaptive behaviour with positive reinforcement. Steer (2005) underscores the effectiveness of teachers and parents using contingency measures to elicit the desired behaviour from the child. Academically, teachers ensure their instructions match the child's needs, and parents and teachers engage actively with the child to help set goals and manage time (Tresco et al., 2010). Family support also plays a critical role in the child's educational process. Parents can control the child's environment by limiting television and computer time and other distractions at home. They can also provide a consistent homework routine and assist with homework tasks (Tresco et al., 2010). However, these teachers and family support systems change when adolescents transition into emerging adulthood and enter university.

2.2.3 Transitioning into Emerging Adulthood

Young adults with ADHD face many challenges when they transition from adolescence to adulthood (Connor, 2012; Fleming & McMahon, 2012; Gessler & Lesch, 2011). It is a period where 18 to 25-year-old individuals function similarly to adults in that their behaviour is largely independent of external control (e.g., parental and teacher control). However, they function similarly to adolescents in that their executive functioning systems are still maturing, and they display high arousal to their socio-emotional environment. This new stage for university students brings more responsibilities and increased self-directed academic work (Fleming & McMahon, 2012). The authors also found that college students reported lower social skills and greater difficulty in social and romantic relationships.

On the contrary, Jansen et al. (2017) found no differences between university students with and without ADHD concerning social problems, for example, having no or few friends. Therefore, the authors argue that social problems experienced in higher education are not ADHD specific. Alternatively, it could be assumed that when students enter higher education, they have learned how to interact appropriately (Jansen et al., 2017).

Goal completion is another common barrier encountered by university students with ADHD (Prevatt & Lee, 2009). The authors argue that poor motivation contributes to students' inability to complete goals, which could be due to the lack of support they receive at the

university level. Several researchers have reported factors that could increase students' motivation levels. For instance, students can be motivated to accomplish tasks using incentives (Prevatt et al., 2017). Brown (2013) argues that students can overcome motivational deficits if they are interested in a task, find it enjoyable and know the immediate consequences of non-engagement.

Students' academic impairment might increase when they enter university due to the loss of structure and the support of the family and teacher environment that they previously had (Fleming & McMahon, 2012; Heiligenstein et al., 1999; Meaux et al., 2009). Many university students are unprepared for this shift from parents and teachers controlling their learning, to taking ownership for their learning (Connor, 2012). Thus, students may need to generate external support systems for themselves, for example, study groups (Fleming & McMahon, 2012). Moreover, the academic environment changes drastically from school and poses added challenges.

2.2.4 The University Academic Environment

The teaching environment at many universities may not be conducive to optimal learning for students with ADHD, and previous research suggests that many students perceive lecturers as not accommodating to their disabilities (Perry & Franklin, 2006; Jansen et al.,2017). The authors argue that the probability of students experiencing problems is highest during classical teaching and evaluation methods frequently implemented in higher education.

According to Farrel (2008, as cited in Jansen et al., 2017), the performance of students with ADHD increases when they can participate actively during lectures. Alsopp et al. (2005) found the Individualised Strategy Instructions Model (hereafter referred to as ISIM) valuable when teaching students with ADHD. This model requires a specific assessment of the student's individual learning needs after which learning strategies are selected based on these results concerning the specific demands of the student's course. Based on the ISIM, the student acquires learning strategies using systematic, explicit instruction within the student's course. Participants exposed to this model perceived it as valuable due to its individualised nature and the supportive relationship developed with their strategy instructor. On the contrary, participants indicated the ineffectiveness of support structures that did not consider their individual learning needs or did not help them understand how learning strategies fit into the context of courses (Alsopp et al., 2005).

2.2.5 Reluctance to Seek Professional Help

Canu et al. (2008) assert that university students with ADHD are more likely to experience outward discrimination due to the difficulty in concealing the disorder. These researchers found that college students with ADHD were perceived more negatively than students without ADHD by other college students, especially in academic contexts. Furthermore, they were more hesitant to initiate social relationships with individuals with ADHD. Perry and Franklin (2006) found that students with ADHD viewed other people as unwilling to understand them and consequently experienced the environment they were participating in as prejudiced and judgemental. However, more recently, Thompson and Lefler (2016) found that college students were more accepting of students with ADHD as the disorder is more common in the current generation. Fleming and McMahon (2012) also noted that more frequent contact with individuals with ADHD was associated with more positive attitudes toward ADHD. Moreover, if students with ADHD can limit their outward behaviour, for example, distractibility, disorganisation, and procrastination, stigma against them might be reduced (Thompson & Lefler, 2016).

Nonetheless, many students diagnosed with ADHD choose not to disclose information about their diagnosis to universities due to a fear of being stereotyped, pitied or excluded (D'Alessio & Banerjee, 2016). Therefore, they pose as "normal" to avoid stigmatisation (Magnus & Tøssebro, 2014). Denhart (2008) found that college students with learning disorders, such as ADHD, are reluctant to use or request accommodations due to the stigma involved. For some students, the fear of a label's stigma might be worse than being viewed as lazy or unmotivated (Denhart, 2008). It emphasises the need for greater awareness of the struggles and frustrations that students with ADHD face to reduce stigmatisation (Perry & Franklin, 2006) and subsequently make it easier for students to request support.

Furthermore, young people are reluctant to request professional help when it comes to mental health and instead prefer the assistance of friends and family (Gulliver et al., 2010). The authors assert that adolescents and young people display a high reliance on self to solve mental health problems, preventing them from seeking professional help. In their review, Gulliver et al. (2010) found that a lack of knowledge about mental health services is another reason that prevents young people from seeking professional help.

2.2.6 Support Systems During Adulthood

As with children, adults with ADHD require an individualised combination of psychoeducation, behavioural guidance and supportive pharmacotherapy (Gessler & Lesch,

2011). "A multimodal deficit focused and resource enhancing treatment strategy is particularly important as patients become adults and are met with new demands" (Geissler & Lesch, 2011, p.1474). Current intervention treatments for adults with ADHD aim to suppress symptoms, provide coping strategies and improve overall wellbeing (Geissler & Lesch, 2011). However, there is a lack of evidence indicating the efficacy of non-drug interventions in the absence of medical treatment. Research shows that psychotherapeutic treatment is beneficial in childhood ADHD. However, there is a lack of evidence of this treatment's efficacy in adults with ADHD (Schoeman & Liebenberg, 2017).

Connor (2012) argues that academic success depends on students' awareness of support systems. Given the developmental and contextual transitions associated with emerging adulthood, the question is raised about how university students manage their ADHD, the support that they receive and where they still need further support. The most commonly used support systems among university students and their perceptions of these are discussed below, using the biopsychosocial model.

2.3 Psychopharmacological Treatment

Pharmacotherapy is viewed as the cornerstone of treatment for people diagnosed with ADHD and is the first line of treatment in adults (Sadock et al., 2015; Schoeman & Liebenberg, 2017). Medication is associated with large reductions in ADHD symptoms and improvements in aspects of executive functioning related to task management, planning, organisation, study skills, and working memory (Green & Rabiner, 2012). The choice of pharmacological treatment depends on factors such as the patient's preference and comorbid conditions, the potential of misuse, side effect profile, and toxicity in overdose (Schoeman & Liebenberg, 2017).

Stimulant medication has proven to be an effective first-line treatment for some adults (DuPaul et al., 2009; Wilens et al., 2002). However, stimulants are ineffective in up to 50 per cent of adults (Wilens et al., 2002). Knouse et al. (2008) argue that medication treatment may not fully address the multiple domains of impairment experienced by adults with ADHD. Treatment with medication can address core neurobiological symptoms, but many residual symptoms remain in adults. Positive responses of long-acting stimulants used by adults include increased attention span, improved mood, and decreased impulsiveness (Sadock et al., 2015).

According to Schoeman and Liebenberg (2017), Ritalin and Concerta are the preferred medication choices for adults due to a lower misuse potential, fewer rebound symptoms and frequent dosing with short-acting formulations. Strattera is the preferred medication for people with comorbid substance use disorders and anxiety disorders (Schoeman & Liebenberg, 2017). Sadock et al. (2015) point out the potential of increased suicidal thoughts and behaviours as a side effect of the use of Strattera, as well as a dry mouth, insomnia, nausea, decreased appetite, constipation, among others (Schoeman & Liebenberg, 2017).

A study by Bussing et al. (2012) revealed that less than half of the youth respondents indicated that they wanted to continue taking medication for their ADHD due to the side effects. These side effects may adversely impact students' academic performance, for instance, an inability to concentrate due to lack of sleep or low blood sugar. Consequently, university students may stop utilising medications or use them infrequently, which, in turn, will prevent students from receiving the desired help that medication treatment offers. D'Alessio and Banerjee (2016) assert that the management of the side effects of medication remains a challenge. Bussing et al. (2012) found that health care professionals may focus on the side effects of ADHD medication but do not always consider the associated worries young people have about these side effects. By not addressing these worries, the authors argue that health professionals fail to recognise the problems that prevent adolescents from taking medication.

The research on the medication to treat ADHD is limited in study samples that include college students (Green & Rabiner, 2012). Nevertheless, DuPaul et al. (2009) argue that college students have responded positively to stimulant medication treatment in general. Fleming and McMahon (2012) state that stimulant medication alone does not guarantee university students' academic performance. People with ADHD often lack self-regulatory behaviour (e.g., planning and organisational skills) which cannot be resolved by medicine alone. Furthermore, Green and Rabiner (2012) point out that university students are in many instances subject to long daily schedules starting with morning classes that extend into study sessions lasting into the early morning hours. Thus, students require medication that manages symptoms for more extended periods than covered by the existing long-acting stimulants.

Students' perceptions of the efficacy of medication treatment vary in the literature. In a study conducted by Ofiesh et al. (2015), students reported the need to adjust the time they took medication to accommodate a scheduled exam. This might negatively affect their sleeping patterns and affect other tasks later that day or the following day. In a study reported by

Green and Rabiner (2012), 90 per cent of students on medication realised it was helpful in terms of their academic performance. However, the researchers observed no noticeable academic improvement compared to the control group. They concluded that the possibility that these students could have had poorer results if they had not been on medication could not be ignored.

2.4 Psychosocial Treatment

Psychosocial interventions form an integral part of the comprehensive, multimodal management approach for adults with ADHD. Psychosocial interventions include psychoeducation, Cognitive Behavioural Therapy (hereafter referred to as CBT), supportive coaching or assistance with other daily activities (Schoeman & Liebenberg, 2017). Numerous studies have shown the efficacy of psychosocial treatment in adults with ADHD (Knouse et al., 2008). Several of these treatments are designed for group settings and are beneficial due to their potential cost-effectiveness, and the support provided by group members to each other (Knouse et al., 2008). However, the optimal approach is an individually tailored, problem-oriented approach to psychosocial interventions (Schoeman & Liebenberg, 2017). Limited research could gather information by evaluating university students' perception of their support. Psychosocial intervention strategies tested with university students are discussed below.

2.4.1 Cognitive Behavioural Therapy

Cognitive Behavioural Therapy focuses on teaching coping strategies and identifying and modifying maladaptive thinking patterns that could hamper effective coping (Green & Rabiner, 2012; Knouse et al., 2008). Strategies include psychoeducation to enhance the clients' knowledge of ADHD and techniques to improve attention (e.g., self-instruction and memory aides), reduce impulsivity, and improve organisational skills (e.g. diaries and time schedules). It also includes social skills training to improve communication skills (Green & Rabiner, 2012; Schoeman & Liebenberg, 2017).

Cognitive Behavioural Therapy can be provided in group and individualised settings, with each having its advantages and disadvantages (Fleming & McMahon, 2012; Knouse et al., 2008). Studies have shown that individual CBT is acceptable to clients, feasible and efficacious in reducing core symptoms of ADHD, symptoms of depression, and anxiety (Fleming & McMahon, 2012). However, the authors point out the challenges of cost-effectiveness to accommodate limited budgets and the difficulty of disseminating and implementing CBT treatments to college students by support services. Group CBT provides

peer normalisation, support and modelling, and greater cost-effectiveness (Fleming & McMahon, 2012). It is viewed as the most effective psychosocial treatment for adults with ADHD, yet only limited trials have involved college students (Green & Rabiner, 2012). He and Antshel (2017) argue that CBT interventions are applied in a more condensed approach with university students. However, it is expected that they derive the same benefits compared to adolescents and adults.

2.4.2 Coaching

Attention-Deficit/Hyperactivity Disorder coaching is a popular intervention for adults with ADHD (Fleming & McMahon, 2012; Knouse et al., 2008). In ADHD coaching, the coach helps the client set individualised goals and implement effective strategies to achieve these goals (Ahmann et al., 2017). Coaching is a structured, supportive therapy that can be offered individually or in group sessions. The purpose is to learn new problem-solving skills for identified practical problems (Schoeman & Liebenberg, 2017). According to Knouse et al. (2008), coaching sessions are brief, flexible and occur frequently and can be done in person or via email or telephone. The coach is generally more accessible on an as-needed basis.

More recent studies have examined the efficacy of coaching among university students with ADHD, with mixed results (Ahmann et al., 2018; Fleming & McMahon, 2012; Prevatt et al., 2017). For example, executive functioning coaching is associated with academic gains only among students with ADHD with no comorbid disorders (DuPaul et al., 2017). In studies reviewed by Green and Rabiner (2012), university students with ADHD indicated that they believed coaching increased their self-discipline, time management skills, organisation, and feelings of self-efficacy. However, it was not evident in these studies, whether university students believed coaching improved their grades.

In a study conducted by Parker et al. (2011), university students who received individual coaching described how it enhanced their ability to achieve academic goals that became more specific and rigorous as they progressed. Students reported becoming more consistent in their work habits, using new test-taking techniques, and reading comprehension and studying more consistently over time (Parker et al., 2011). The students also expressed greater confidence in their ability to sustain effective studies.

Some students view coaching limitations as including the lack of access to this intervention approach, infrequent sessions, and sessions being too short (Ahmann et al., 2018). Furthermore, coaching focuses predominately on academic functioning, and there is no

research on the efficacy of coaching to support students' socio-emotional development (Ahmann et al. 2018; Prevatt et al., 2017). The research suggests favourable results for group coaching among adults, however, no research has examined group coaching for college students (Ahmann et al., 2018). Fleming and McMahon (2012) argue that group-based treatment that facilitates peer normalisation may benefit university students with ADHD.

2.5 Academic Accommodations at Universities

Academic accommodations for university students with ADHD typically include additional time for assignments and tests and distraction reduced test settings (Green & Rabiner, 2012). Jansen et al. (2017) suggest the effectiveness of reasonable accommodations cannot be generalised to all students with a specific disability and, therefore, these should be selected based on the student's individual needs.

The literature regarding the use and effectiveness of reasonable accommodations for students with ADHD is scarce (Jansen et al., 2019). These authors further argue that there are some limitations in studies examining the effectiveness of accommodations provided to university students with ADHD. Firstly, many studies are not ADHD specific but include broader groups of students with various disabilities (Jansen et al., 2017). Secondly, the guidelines on implementing reasonable accommodations currently used are not based on scientific research (Jansen et al., 2019). Lastly, the literature is indecisive about the usefulness of reasonable accommodations for students with disabilities. Jansen et al. (2019) argue that this is because the objective and subjective effect of accommodations on students' performance at higher education has not been extensively researched. Students with ADHD who do not use reasonable accommodations, expect these to be less effective than students with ADHD who use the accommodation and experience it as valuable (Jansen et al., 2017).

In a study by Green and Rabiner (2012), only 40 per cent of students with ADHD indicated they were offered adequate accommodations. The same study specified that only 45 per cent of students with access to accommodations used it. The reasons students stated included not wanting aid that is not offered to students without disorders, viewing accommodations as unnecessary, or not being aware of their existence. As noted, before, many students with ADHD refuse reasonable accommodations because they are afraid of being stigmatised by peers or want to succeed independently (Denhart, 2008). Magnus and Tøssebro (2014) argue that students have a hard time imagining whether accommodations

would be helpful because they receive inadequate or insufficient information about these facilities. Accommodations provided at universities are discussed below.

2.5.1 Additional Time

Additional time is the most commonly used test-taking accommodation among students with ADHD (Gregg & Nelson, 2012). Additional time allows students with ADHD, who tend to get distracted easily, and students with comorbid learning disorders more time as they move at a slower rate (Ofiesh et al., 2015). Numerous studies have investigated additional time during primary and secondary school years, but research investigating whether these findings can be transferred to a university setting are limited (Jansen et al., 2019). These authors argue that there is no correlation between additional time and students' academic performance. However, students with ADHD subjectively perceive additional time to be effective (Jansen et al., 2017).

2.5.2 Distraction-free Testing Environments

A few studies have pointed out the benefits of testing environments at universities that are computerised, free of distractions (e.g., a small number of people tested in a room) and allow for externalising behaviours, for example, self-talk (Wagner et al., 2005; Ofiesh et al., 2015). In a study conducted by Jansen et al. (2019), the authors observed that students with ADHD were more distracted by the testing venue's infrastructure and had greater difficulty sustaining attention despite being on medication at the time. Consequently, there is a need for testing venues free of distractions.

2.6 Concluding Remarks

As indicated in the literature review, research conducted to date focuses predominantly on the efficacy of support systems pertaining to academic performance. However, few studies investigate support systems utilised for socio-emotional support and students' views of the support. Furthermore, research exploring university students' perceptions of support systems in South Africa could not be sourced. The present study aimed to fill the gap in the literature on students' perceptions of socio-emotional support and provide insight into students' opinions of support systems within the South African university context. In the next chapter, the research methods used to conduct the current study are discussed.

CHAPTER 3: RESEARCH METHODS

This chapter reviews the research methods in this study, describes the aim of the research and states the research questions. A description of the methodological approach will be discussed, followed by an outline of the targeted sample and sampling procedures. The procedures used in conducting this study and data analysis are also explained. Ethical considerations are presented, as well as factors to ensure the rigour of the study.

3.1 Aim of Research

The research aimed to explore the perceptions of support among university students diagnosed with ADHD. The research aimed to identify the support systems that students utilised and their views on the efficacy of these support systems. The study further explored the areas in which students expressed a need for additional support academically and on a socio-emotional level. The following research questions were explored.

3.2 Research Questions

1. What support systems do university students diagnosed with ADHD utilise?
2. What are students' perceptions of the support they receive in relation to their ADHD diagnosis?
3. In what areas, if any, do university students diagnosed with ADHD require additional support?

3.3 Research Design

This study utilised a qualitative research design that is exploratory in nature. According to Snape and Spencer (2003, p. 22), "…the aims of qualitative research are generally directed at providing an in depth and interpreted understanding of the social world, by learning about people's social and material circumstances, their experiences, perspectives and histories". As students with ADHD have different, subjective experiences and perceptions of the same phenomenon, an interpretivist approach was selected. According to Terre Blanche (2006), the interpretivist researcher takes people's subjective experiences of what is real for them seriously. Gray (2014) adds that the interpretivist researcher investigates these experiences by interacting with them and listening carefully to their stories. In order to understand a student's perception of support, the researcher must put aside any subjective understanding of the value of support systems available and evaluate them from a student's perspective. In

doing so, the researcher can access the student's individual experience and discover the reality of the support systems in place.

3.4 Context of the Study

Six of the eight participants were registered students at the University of the Witwatersrand in Johannesburg. In 2019, 1 290 students with disabilities were registered at the University of the Witwatersrand ((Disability Rights Unit (hereafter referred to as DRU), Annual Report 2019). Of these students, 250 students were diagnosed with learning disabilities. According to the Director of the university's DRU (personal communication, August 12, 2020), approximately 25 per cent of these students were diagnosed with ADHD. Students with ADHD approach DRU based on recommendations by psychiatrists or psychologists. The primary forms of support for students with ADHD at the university are accommodations that provide additional time for tests and exams, time management and other skills training. These provisions are based on the students' individual needs, such as planning and relaxation techniques.

In some cases, students are referred for personal therapy to the university's Counselling Careers and Development Unit (hereafter referred to as CCDU). The DRU also provided guidelines for lecturers on their website on how to accommodate students better in the classroom. It is unclear what support systems are provided to students with ADHD at the universities attended by those two participants who do not attend the University of the Witwatersrand.

3.5 Sample and Sampling

Eight participants were recruited for the present study. Six of the participants were students at the University of the Witwatersrand, one was a student at the University of Pretoria, and another studied at a private fashion institute in Johannesburg called Stadio Higher Education. The inclusion criteria that participants needed to meet in order to take part in the study were a) a young adult over the age of 18 and, b) formally diagnosed with ADHD by a medical practitioner such as a psychiatrist, paediatrician or neurologist and c) enrolled at a higher education institution.

Nonprobability, purposive sampling methods were used to select candidates. Purposive sampling is when "…cases that are typical of the population are selected" (Terre Blanche, 2006, p. 139). Initially, sampling was convenience-based because participants attended the University of the Witwatersrand, where the researcher was working on his master's degree.

The researcher used snowball sampling by asking participants to inform others that they thought may be interested in the study and request that they contact the researcher. The two participants that were not students at the University of the Witwatersrand were recruited through snowball sampling. The Learning Disability Coordinator (hereafter referred to as LDC) at the University of the Witwatersrand's Disability Rights Unit helped inform potential participants, who were students diagnosed with ADHD at the university, to be aware of the study. The LDC emailed eligible participants, forwarding them a Participant Information Sheet (hereafter referred to as PIS) (See Appendix 4). The PIS explained the purpose of the study and what it entailed. It also provided potential participants with the researcher's contact details. Permission was also obtained from the LDC to place a poster on the Unit's notice board (See Appendix 1) regarding the study. This poster invited interested students meeting the study participation criteria to contact the researcher (See Appendix 3).

Additionally, permission was obtained from the Heads of the Psychology and the Education Departments to inform students about the study at the start of their lectures (See Appendix 2). Copies of the poster advertising the study were left in the lecture halls. Posters, advertising the study, were also placed on the notice boards on the university's Health Sciences Campus and the reception area at the CCDU.

Terre Blanche (2006) states that a sample size of ten people is sufficient when doing in-depth interviews, and the researcher is seeking for variation in the information. This study's sample size consisted of eight participants, as data saturation had been reached. Thus, enough data was collected from the eight participants to answer the research questions. Table 1 described each participant's subtype, gender, age range, whether undergraduate or postgraduate and their field of study.

Table 1: Description of the Participants

Participant	Subtype	Gender	Age Range	Postgraduate/ Undergraduate	Field of Study
1	Combined	Female	18-21	Undergraduate	Fashion Design
2	Unknown	Male	18-21	Undergraduate	Engineering
3	Combined	Female	22-25	Postgraduate	Psychology
4	Inattention	Male	22-25	Undergraduate	Engineering
5	Unknown	Male	22-25	Postgraduate	Education
6	Combined	Male	22-25	Postgraduate	Geography
7	Combined	Male	22-25	Postgraduate	Education
8	Hyperactivity-Impulsivity	Male	>25	Postgraduate	Psychology

3.6 Measures

The data collection method was individual interviews, using a semi-structured interview schedule (See Appendix 5). Legard et al. (2003) highlight the individual interviews' effectiveness for generating data as they allow a deeper understanding of people's perspectives on a phenomenon. The use of semi-structured interviews allowed participants to talk more in-depth about their feelings and experiences (Terre Blanche, 2006). This author defines semi-structured interviews as where the researcher draws up a list of topics or subtopics they want to discuss. These questions are not fixed, and follow-up questions can emerge during the interview, based on the participants' answers. A list of structured questions was drawn up to address the study's objective and answer the research questions. Related literature was used to explore the support systems with potential follow-up questions to allow participants to elaborate on their answers. The interviews were scheduled at a convenient time for both the researcher and the participants. The duration of the interviews was on average between 45 and 90 minutes. The interviews were audio-recorded after receiving consent from the participants.

The first two interviews were used for piloting purposes, and questions changed as necessary. For instance, according to the responses, it was evident that the question, "How are you being supported on a social level?" was too vague and required further explanation.

Thus, in subsequent interviews, participants were asked more directly about their relationships with their friends, romantic partners, and family members and their perception of the support received from these role players concerning their ADHD. For example, "How are you being supported by your family members in relation to your ADHD diagnosis?" A follow-up question would be, "How do you experience their support?" In the pilot interviews, participants went beyond academic accommodations when asked about academic support and often referred to support in the lecture environment. In the interviews that followed, the lecture experience, specifically participants' perceptions of support in these environments, was also explored. Participants were asked what form of support they received in lectures and what they required in these settings.

Questionnaires had three parts (See Appendix 6). The first part obtained demographic and background information such as the age of participants, what they were studying, and when and by whom they were diagnosed. The second part focused on what university was like for them academically and socio-emotionally regarding their ADHD diagnosis; how they were supported; their perceptions of these support systems, and what areas they required further support. Some examples of questions asked in this section were: "How are you being supported academically?" Based on their responses, participants were probed further about accommodations described in the literature not mentioned by them. Another example of a question would be, "How are you being supported on an emotional level?" Followed by, "What works?" or "What does not work?".

The final part of the interview was used to debrief participants who were asked about their interview process experience. This was to determine whether the interview activated any feelings of distress for the participants and if they needed more support to deal with these feelings. The following questions were asked: "How did you experience the interview? Is there any other assistance that you think you require? Are you feeling all right to finish the interview?" If participants had admitted to feeling distressed, they would have been referred to CCDU or the Emthonjeni Centre for counselling. The two participants who were not students at the University of the Witwatersrand would have been referred to Lifeline or the South African Depression and Anxiety Group (hereafter referred to as SADAG).

3.7 Research Procedure

Before data was collected, ethical clearance was obtained from the University of the Witwatersrand's Human Research Ethics Committee (non-medical) (hereafter referred to as HREC non-medical). The ethical clearance certificate is included in Appendix 8 (Protocol

number: MEDP/19/004 IH). Permission was obtained from the respective Heads of Academic Departments as well as the DRU to approach students. Participants were sourced as described under sample and sampling (Section 3.5). Interviews were at the Emthonjeni Centre at the university.

Sanjari et al. (2014) stress the importance of informing participants in advance which data will be collected and how it will be used. The authors further emphasise the researcher's ethical responsibility to inform participants of the different aspects of the research in clear language. The purpose of the study, procedure, and participants' role, as outlined in the PIS, were explained in detail to the participants on the interview day and they had the opportunity to ask questions about anything unclear. They received two consent forms (See Appendix 5), which the researcher discussed with each individual, to sign before the interview. In the first consent form, participants consented to voluntary participation in the study after being informed of the potential risks and benefits of participation as well as confidentiality issues. In the second consent form, participants consented to be recorded. The interview was audio-recorded. After the interviews, participants were debriefed to ensure that they were satisfied to finish the interview and determine whether they needed further assistance or support. The following three debriefing questions were asked:

1. How did you experience the interview?
2. Is there any other assistance that you think you require?
3. Are you feeling all right to finish the interview?

Participants were made aware of the free counselling services available at the University of the Witwatersrand's Emthonjeni Centre and the CCDU should they need to engage in supportive counselling. Participants who were not students at the University of the Witwatersrand were encouraged to approach their universities' counselling centres. Alternatively, they would have been made aware of the counselling services provided by SADAG as well as Lifeline. None of the participants showed any signs of distress after the interviews. Interviews were transcribed verbatim for analysis.

3.8 Data Analysis

Data was analysed following Braun and Clarke's (2006) six phases of thematic analysis. Braun and Clarke (2006) describe thematic analysis as a method which identifies, analyses and reports patterns within data. This method allows the researcher to organise and describe his data set in detail.

In the first phase, the researcher immersed himself in the data, by reading and re-reading each of the transcripts, making notes and summarising each transcript. This allowed the researcher to familiarise himself with the data collected (Braun & Clarke, 2006). In phase two, significant features noted in the data were coded using the computer software programme ATLAS.ti highlighting keywords and phrases. All the information was retained during this phase, regardless of whether they deviated from the dominant storyline (Braun & Clarke, 2006). The next phase identified themes and sorted these into broader categories, as stated in Braun and Clarke (2006).

Phase four checked whether some themes fitted into other themes, and if not, these themes were discarded (Braun & Clarke, 2006). In phase five, the themes were defined and refined by identifying the core of each theme. Themes were organised in a coherent, consistent account with the narrative. In this phase, subthemes within the themes were identified (Braun & Clarke, 2006). A final report was produced in the sixth phase, describing each theme and its subthemes in a concise, comprehensible, logical, non-repetitive manner, vivid examples, were included. Finally, there was a discussion concerning the research questions.

3.9 Research Quality

Qualitative research has its strengths and limitations (Anderson, 2010; Atieno, 2009). Systems were put into place to ensure limitations were minimal. Atieno (2009) notes that the qualitative research's strengths are that data can be simplified or managed without destroying the context and complexity, and new ways of evaluating existing data can be generated. Students' opinions of support can be examined in detail, revealing subtleties and complexities about the participants and/or their views (Anderson, 2010).

The rigour of the study was judged against the qualities of Naturalistic Inquiry as described by Lincoln & Guba (1985). These qualities are credibility, transferability, dependability, and conformability. Credibility refers to the researcher's ability to honestly portray participants' perceptions (Bloomberg & Volpe, 2018). The research quality is greatly dependent on the individual skills of the researcher, and the researcher's biases may hamper credibility. Mehra (2002) argues that researchers can never be "unbiased" and completely objective due to human nature, and their responses can influence the participant's responses. Thus, researchers need to be aware of their own biases, values and beliefs and how these influence the research process (Mehra, 2002). The credibility of the results in this study was ensured by a) continuously asking clarifying questions to ensure that the responses given by

the participants were understood correctly by the researcher, and b) checking and discussing results with the researcher's supervisor to ensure researcher bias was limited in terms of results.

The dependability of the research requires consistency in how the data answers the research questions (Bloomberg & Volpe, 2018). Dependability was ensured by following Braun and Clarke (2006)'s thematic analysis techniques, as discussed in Section 3.8. Triangulation was used in the discussion section in Chapter 5 to highlight the similarities and discrepancies of findings in the literature. Furthermore, an audit trail was maintained, and the transcripts of the interviews and coding saved on a password-protected computer.

Conformability is concerned with the researcher's findings and interpretations and whether conclusions were derived from the data presented instead of the outcomes of biases and subjectivities of the researcher (Bloomberg & Volpe, 2018). In order to ensure confirmability, an audit trail was developed to describe a) the coding process, b) how themes were identified from individual codes and c) the rationale for clustering codes together. Verbatim quotes and extracts from the interviews were used to analyse data. See Appendix 9 for a description of these processes.

Bloomberg and Volpe (2018) describe the transferability of research as the extent to which a study's results can be applied to the broader population. Transferability is established by defining the outline of purposeful sampling strategies, an in-depth description of the study's setting, participants and their perceptions (Bloomberg & Volpe, 2018). This study's results can be applied to university students formally diagnosed with ADHD at universities with similar settings as the University of the Witwatersrand. The sampling strategies were discussed in Section 3.5.

3.10 Ethical Considerations

As previously noted, ethical clearance was obtained from the University of the Witwatersrand's HREC (non-medical). Written permission was requested and obtained from the respective Heads of Academic Departments and DRU to approach students. Potential participants received the PIS before the commencement of the study, and those who volunteered to take part were again given the PIS before starting the interview. The PIS explained the study's aim, the participant's role in the interview process, and issues concerning confidentiality and anonymity. Terre Blanche (2006) points out that ethical research requires the researcher to assure participants of the voluntary nature of

participation and the ability to withdraw from the research process at any time without being penalised in any way. The participants were informed that they were not obliged to answer any questions which made them uncomfortable and could opt to withdraw from the interview at any time without any consequences. After discussing the information sheet, participants could ask questions about the interview process or the study and discuss any concerns. The researcher aimed to provide truthful, illustrative answers in response. Participants were asked to sign two consent forms: the first form consenting to voluntary participation in the interview and the second to being recorded (See Appendix 5).

Issues of confidentiality are crucial to respect participants' anonymity (Sanjari et al., 2014), which, according to these authors, is when there is no link between a participant's response and their identity. The participants' full anonymity could not be assured, as the researcher conducted face-to-face interviews with the participants. However, measures were established to protect the identity of participants as much as possible. Instead of participants' real names, pseudonyms are used in the transcripts and final report. Audio-recordings of the interview were saved on a password-protected computer and will be destroyed after five years. Participants were told that the research findings might be published in a journal or a book chapter. However, their identity will be protected when presenting the research findings.

Upon completing each interview, the researcher informed the participants about the support provided to students with ADHD at the University of the Witwatersrand and other available resources that they may not have been aware of, such as the free counselling sessions at Emthonjeni Centre. The contact details of the LDC at the University of the Witwatersrand's DRU, the contact person at Emthonjeni Centre and the University of the Witwatersrand's CCDU were given to participants in the PIS after the interviews.

3.11 Summary of Chapter

In this chapter, the methodology used in the current research was described. It described the procedure followed to collect data and the approach used to analyse this data. Also, the ethical considerations and rigour of the study were examined. Chapter 4 presents the findings of the study. The study results are presented according to the themes and subthemes that emerged from the data analysis.

CHAPTER 4: RESEARCH FINDINGS

4.1 Introduction

This chapter discusses the findings from the data collection process in relation to the eight participants. The transcriptions were analysed through thematic content analysis, as illustrated in this chapter. Quotes are provided from the participants' responses, which substantiate the evidence for this study, and the findings presented following the research questions according to the biopsychosocial model. Noteworthy findings, not relating to the research questions, but that captured participants' perceptions of being a university student diagnosed with ADHD, are also presented. The themes and subthemes that emerged in the data are illustrated in Table 2.

Table 2: Main Themes and Subthemes from the Data Analysis

Main Themes	Subthemes
	Existence of comorbid disorders
Comorbid disorders	Difficulty distinguishing between symptoms of ADHD and comorbid disorders
Stigma associated with ADHD	
Medication treatment	Utilising medication
	ADHD medication perceived as beneficial
	Negative experiences with ADHD medication
Psychosocial support	Self-support
	People who understand ADHD perceived as more supportive
	Other psychosocial support
Academic support	No academic support
	Utilising inner strengths to function academically
	Lecture and lecturer experiences
	Support received by university's learning disability units
	Exam experiences
	Additional time
	Importance of structure and time management strategies
Other support needed	Academic support
	Support groups
	Social awareness

4.2 Comorbid Disorders

4.2.1 Existence of Comorbid Disorders

The literature postulated that many people with ADHD also have a comorbid disorder. Participants were asked if they had been diagnosed with any other disorders and what type of support they had received. Three participants indicated that they had been formally diagnosed with comorbid disorders. Of these three participants, two participants reported being diagnosed with a specific learning disorder in addition to their ADHD diagnosis as Participant 1 said: "I was diagnosed in grade 10 with... uhm… I'm not actually sure if there's an actual word for it, but they say that my reading was an issue". Participant 6 stated: "Then in grade 12, I found out that I was dyslexic"**.** Participant 3 was diagnosed with more than one disorder: "I got diagnosed with depression, generalized anxiety disorder, panic disorder, PTSD, social phobia and general anxiety disorder. So, a lot!" Two participants indicated that they were not formally diagnosed with comorbid mood disorders but indicated experiencing symptoms related to mood disorders like Participant 5 reflected: "I went to the CCDU for depression, not for ADD and it wasn't necessarily linked to varsity work or anything. It was just like generalised depression". In addition, Participant 7 commented: "I developed quite bad anxiety… I had quite severe… or not... no very severe depression in 2016. But I don't think that was really related to anything".

4.2.2 Difficulty Distinguishing Between Symptoms of ADHD and Comorbid Disorders

Four participants indicated that finding it hard to distinguish between symptoms of ADHD and their comorbid disorders and identify which disorder affected which part of their functioning. This was demonstrated by Participant 6 about his comorbid dyslexia diagnosis: "I don't know how to differentiate between the ADHD and the dyslexia… it's kind of like they're both this big monster that like work... It's like a black hole". Participant 8 commented on the anxiety he experienced: "…it's hard to separate: is it the anxiety? Is it ADHD?"

4.3 Stigma Associated with ADHD

Throughout their interviews, many participants indicated that there was still a lot of stigma associated with ADHD. Participant 5 emphasised this within his interview:

> I think the stigma does still exist, which is also something that I… a boundary that I cross inappropriately when I say that I have ADD and people feel uncomfortable about it. A lot of people don't want to talk about that kind of stuff.

Some participants argued that it was especially hard for adults with ADHD, as it is still seen as a childhood disorder. Participant 8 described his experience as follows:

> There's something about it that seems quite… either it's sort of like a made-up thing and you've fallen into that trap or it's like, 'No, you know, "you're an adult and that really doesn't make sense". It's just a "you" thing and not an ADHD thing'. But it was almost like this is a childhood thing.

4.4 Medication Treatment

4.4.1 Utilising Medication

At the time of their interviews, six participants indicated that they used medication to treat their ADHD. However, participants expressed differences in the frequency of taking their medication. For example, Participant 3 indicated taking medication consistently when attending lectures and studying: "So I'd take it before my class and by the time it's out of my system, the class is over. And then I'd take it when I need to study". Some participants described only taking their medication when they had to study for a test or exam and not necessarily adhering to the dosage. Participant 2 explained: "At this point, I'm prescribed with 40–54mg of Concerta to take on a day where I'm studying. I'll take it a week before and during the exams... I like binge take it through a week". Two participants indicated that they used to take medication for their ADHD but stopped for various reasons. Participant 8 explained that he used to be on medication but stopped when he entered postgraduate studies. According to him, postgraduate studies entailed less memorisation, which meant that he did not have to be as focused: "I actually stopped the medication. I seem to have found ways... and since after undergrad, you're not really memorising that much. Just… study now it's more thinking".

The two participants who stopped using medication described the difficulty they faced in staying focused and its effect on their academic performance. Participant 1 described this in her interview: "But then when I stopped taking medication, my marks took a big dip, and it was very difficult… I just felt like I was almost like daydreaming the whole time. I'm just like in a daze".

4.4.2 ADHD Medication Perceived as Beneficial

The majority of participants reported that the medication was effective in helping them to concentrate. This was revealed by Participant 2 who said: "It's very effective and it fixes like my problem with not concentrating… so it more just focuses me on my work and then I can use my skills to study". Participant 6 described his first experience after taking ADHD medication as follows: "I literally remember the first time that I took 36mg of Concerta and my mind went quiet. And that day I could actually work. I could actually do things like focus". Participant 5 also emphasised the effect the medication had on a psychological level to assist him in processing his emotions: "It helps with the way that you're currently processing your emotions and all of that with relationships… so not feeling so depressed and cramped by all of it".

4.4.3 Negative Experiences with ADHD Medication

Although many participants felt that the medication increased their ability to concentrate and focus, some reported negative experiences while on the medication. One participant reported misusing the medication. Participant 7 stated that he would start working late and then use the medication to keep him awake all night. He described it as follows:

> I seriously abused it… I would just do all-nighters. And obviously with Ritalin an all-nighter… it is pretty easy compared to without it, it's pretty bad for your body… no sleep at all. And just to work, basically, because I hadn't just done my work like a normal person in the afternoons or whenever. And I think that having access to Ritalin definitely makes you think that you can work all night.

Two participants reported encountering either a seizure or epilepsy due to an overdose of ADHD medication. Participant 1 stated that she took an overdose of ADHD medication and argued that her impulsivity might have contributed to this event, which led to her developing Temporal Lobe Epilepsy (hereafter referred to as TLE):

> I took an overdose of Concerta and Ritalin and… but like a whole handful. But it was impulsive. I wasn't depressed or I was just as… more like a, ‘Let me see’ kind of, but it was really dumb. But then I ended up getting TLE and then like now I can't take any stimulants at all.

Participant 4 sustained a seizure due to a great loss in body weight, which impacted how her body responded to the prescribed dosage. She explains as follows: "So, it got to the point where I was like I'm 40kg. And I was just taking Ritalin and not really eating. And I actually had like a seizure".

For three participants, ADHD medication was counter intuitive as an aid to promote sustained attention. These participants pointed out that the medication did not necessarily help them to only focus on academic work but also on other distractions. Participant 1 emphasised this within her interview: "If you get distracted it will also help you focus on whatever you're getting distracted on". Two participants stated that the timing of taking medication was crucial in this regard. If the medication started working while they were busy with something unrelated to academic work, it would be difficult to shift their attention back to the academic task at hand. Participant 4 explains: "It doesn't actually help you concentrate on your work because you could concentrate on something more fun". Similarly, Participant 3 stated: "If it kicks in when I'm on my phone, I will stay on my phone".

Five participants mentioned that ADHD medication affected their mood negatively, which adversely impacted their social functioning. For many of these participants, the medication led them to withdraw socially, and consequently, they had to deal with negative emotions by themselves. Participant 4 explained this through the interview by stating the following: "I am a bit more socially repressed. I'm a lot more reserved on the stuff". Participant 5 corroborated the negative effect the medication had on his mood: "I was always struggling with mood swings and with sort of much too high-level introspection: sitting and overthinking everything and beating myself down. And an unclear perception of reality, I guess, is the main thing".

Due to the negative impact of the ADHD medication on students' moods, many indicated a reluctance to use the medication as prescribed by their health care professional. This often led to irregular use of the medication as evident through the account given by Participant 6:

> We rejoice in the days where we don't have to take Ritalin or Concerta because... I become a human being who's not a human being. I become a machine, not a man, and very quiet, isolated. And sometimes I even intentionally don't take my Ritalin and Concerta, because I'm like I just want to have a normal day.

This was further validated by Participant 8, who stated that he stopped using the medication due to the way it exacerbated his social anxiety:

> And the reason I stopped: like that seemed to really exacerbate a social anxiety or feeling of being withdrawn and cut off from other people. And ja, the medication took away the urge to even try and made me a bit more isolated.

Adding to the negative effect the medication had on participants' social functioning, some participants described physical side effects when using medication. For instance, four participants reported a suppressed appetite. Participant 2 explains this as follows: "My appetite gets completely suppressed. I don't want to eat at all so I can get quite nauseous". Participant 3 indicated that she was uncertain whether the medication suppressed her appetite or if she was too focused to eat. She describes this uncertainty as follows:

> I forget to eat. But I don't know if it was because of my appetite was suppressed or I was too focused to eat or because I was so nervous, I didn't want to eat. I don't know which one it was.

Many participants also described other physical side effects while taking the medication. Some of the side effects mentioned include headaches, extreme exhaustion when the medication wears off, insomnia and nausea. Participant 3 describes the headaches and exhaustion as follows: "I get headaches. Which is normal, I mean I've always had headaches when it comes to the Ritalin… extreme exhaustion, like sometimes I couldn't even see straight". Participant 7 described the effect Ritalin had on his sleeping by stating the following: "And I got to the point where I was… taking the Ritalin was stopping me from sleeping". Participant 5 experienced a number of physical side effects when he was still taking Ritalin but reported no side effects since he switched to Strattera. Participant 5 explains this as follows:

> Daily vomiting throughout most of the day; pretty vivid hallucinations. I would often smell something very, very strongly. Sort of constant sweating, very dry mouth, dry eyes, difficulty with focal focus… insomnia, definitely. I still experience derealisation… right now (on Strattera), side effects... I don't know if I have any.

4.5 Psychosocial Support

Participants' support systems on a psychosocial level were also explored. They were asked to reflect on the support they received from friends and family as well as other systems that provided support on a socio-emotional level. The subthemes that emerged included self-support, support from friends, romantic partners, family members, and others. These support systems and participants' perception of the support are discussed below:

4.5.1 Self-support

Many participants expressed the belief that there was no support available on a socio-emotional level, and some mentioned that they preferred dealing with difficulties on a socio-emotional level by themselves. This belief was stated by Participant 1: "I don't think there really is any support in terms of socially. So, if I have an issue, I want to deal with it alone. I don't want other people to help me". The majority of the participants mentioned that they developed ways to cope socio-emotionally by relying on their inner strengths in the absence of external socio-emotional support. This was demonstrated by Participant 5:

> And I think that often I was just dealing with it myself. I wasn't necessarily repressing it or bottling it up, but I was finding ways to cultivate some sense of happiness or some enjoyment. So, I think that a lot of the support was intrinsic.

Participant 7 agreed and ascribed his ability to cope socio-emotionally to developing his control mechanisms. Learning to control his impulses as he matured allowed him to manage his behaviour better in social settings. Participant 7 described:

> I just have mechanisms myself for support… I'd just say that a lot of it has to do with maturing. And for me, my control mechanism has developed, and I can now control those impulses… it's just learning to manage your specific type of behaviour.

Participant 2 shared the perceptions of other participants who relied on themselves for psychosocial support. However, in his account, he referred to his father's role in developing his sense of self-motivation. Participant 2 describes this as follows:

> I've taught myself to deal with people very well. I think there's support for that, which can in turn pick up your academics… I've never really felt myself in need of it… but it kind of comes from my dad as well. He's always like, 'You must be strong. You must get good at helping yourself'.

Two participants indicated that physical exercise helped them cope on a socio-emotional level. The reasons stated for physical exercise as a helpful coping mechanism included the positive impact exercise had on their sleeping which positively affected their overall functioning. Participant 7 expressed this through the interview by saying:

> A big thing for me is just making sure that I get something like physical done in a day… if I exercise, that means I'm more likely to get a good sleep, which means I'm more likely to be able to function better the next day.

Two participants mentioned journal writing as a means of support to cope on a socio-emotional level. To these participants, journal writing allowed them to reflect on their socio-emotional wellbeing, make sense of their emotions and remain focused. This was demonstrated by Participant 1:

> I keep like a book… I will just write down random thoughts that I had. You know that it's like more emotional related. Things that I can't share with other people… it's actually working very well, because what I did find… by writing it down and ask me to start thinking on the next step, you know?

4.5.2 People who Understand ADHD Perceived as More Supportive

Although many participants indicated that they were not actively supported on a socio-emotional level, a few participants indicated that they felt supported by people who had a better understanding of ADHD. Four participants perceived their friends to support and understand their ADHD diagnosis. This was evident through Participant 2's response: "I think people are very accepting. If it's affected friendships, because the friendships I do have, people understand it, you know? Just the people I've met have been very accommodating of the person".

Participant 3 stated that she perceived her friends to be supportive but indicated that she rejected their support. Her reason for rejecting their support stems from scepticism in the quality of the relationship. Participant 3 explains this:

> I have few friends who know the full gist of what's going on. My friends are always like, 'We're here if you need us and whatever'. But I'm like, 'I don't want talk about my issues with you. You're not going to be here for very long.'

Participant 5 highlighted the usefulness of having friends that experience similar socio-emotional difficulties assisted in feeling supported. Although this statement was about his comorbid depression, it stresses the usefulness of sharing similar difficulties with peers to feel supported and less alone. Participant 5 explains this as follows: "So, I mean, having depressed friends helps if you have depression because they resonate with that. They can say, 'Man, I just feel really shit as well'. And hearing someone say that… it's so relieving". This was further corroborated by Participant 3 who attributed her romantic partner's support to his own ADHD diagnosis. Participant 3 explains this as follows: "This relationship with (name) is great because I mean, he does suffer from some mental issues of his own. He does have ADHD. So, he understands what's going on".

In contrast, Participant 5 perceived his romantic partner to be unsupportive of his ADHD and comorbid depression diagnoses. He said that his partner was sceptical about all mental health disorders, which led to her unsympathetic response to his diagnoses and explained:

> She wasn't great with regard to talking about emotions and support in that way because she wouldn't really understand if I said I'm having a depressive episode. She wouldn't really understand what that meant because she didn't actually believe that it was something at that time of my life.

In addition to support from peers, most participants indicated that they perceived their parents to be supportive of their ADHD diagnosis. Participants recognised parental support in various forms, for example, parents' availability to listen when they needed to talk. This was demonstrated by Participant 2: "Help was always available. My parents... I did talk to my mom. I didn't seek professional help or anything, but she didn't as much help me as just let me talk about... making sense". Participant 5 attributed his mother's support to her background in education which provided her with a good understanding of ADHD. In

addition, Participant 5's father was also diagnosed with ADHD with comorbid depression which led to his mother being attuned to his situation. Participant 5 explained his perception of his mother's support:

> My mother was very receptive to the idea of me having ADD when I was young because she was a teacher and she'd studied education. She knew that there were things that could happen. Ja, my mother was always very prying about how I was feeling because she knew that ADD could come with depression 'cause it happened with my father.

Participant 7 described his parents' support of his ADHD diagnosis as a passive acceptance of his behaviour. Participant 7 said: "I suppose maybe the support was sort of passive in that they didn't like bite my head off every time I did something like that. And sort of maybe allowed me to mature for myself".

4.5.3 Other Psychosocial Support

Only one participant indicated that he received socio-emotional support from the university in the form of a lecturer and the LDC. Participant 8 expresses it as follows: "It's just been a lecturer here. And I know that like (the LDC) at the DRU is always there if I need anything". Five participants indicated that they received therapy to help them cope on a socio-emotional level with their ADHD diagnosis. The frequency of therapy attendance varied among participants. For instance, Participant 1 indicated that she only attended therapy when she felt she needed it: "I used to see her (therapist) on a weekly basis. And now I see her kind of like as needed". The other four participants stated that they were still regularly attending therapy. Participant 6 stated:

> I work with someone who's like a... they're doing psychoanalysis as well. Ja, I see like the equivalent of like in some regard… like I do work with (learning disability coordinator), but I also work with a psychoanalyst as well.

Some participants described therapy as a helpful support system on a socio-emotional level but also that it had its limitations. For instance, Participant 1 explained that therapy helped her determine what coping strategies are useful for dealing with ADHD. However, she could not disclose everything in the therapy space and preferred to deal with these things by herself. In the interview, Participant 1 said:

> Well, it (therapy) has helped me... like therapy has helped me a lot because without it, I wouldn't have been able to figure out what helps me… I could tell her (therapist) most things, but there's still some things that I couldn't tell her, you know, and not necessarily very bad things, but just very personal things that I wanted to deal with alone.

The view that therapy is a helpful support system was further corroborated by Participant 3. However, she indicated that it did not work as quickly as she hoped it would and explained:

> It is working. I'm doubting myself less. In social contexts, when I believe in what I'm doing and then I stick it through, which is great. I am being confident in taking my own education into my own hands. So, it is helping, but not as quickly as I want it to.

4.6 Academic Support

Participants reflected on the academic support they received concerning their ADHD. This included support provided by lecturers during lectures as well as support from the learning disability units. Their experiences during tests and exams were examined and needs in terms of support in these situations explored. The following themes emerged during the interviews.

4.6.1 No Academic Support

Four participants indicated that they received no support on an academic level, but also stated that they did not actively seek academic support. Participant 2 said:

> I don't think there's a special programme for ADHD students. I haven't heard of that. There hasn't been anything that gives me the opportunity to speak out or anything… I'm pretty sure there is support around me, I just don't seek it.

Participant 1 expressed the belief that students have to discover useful strategies themselves and said:

> I don't think there's any support for that. Actually, I think it's more you have to figure it out as you go along. I don't think there really is much that other people can do for you… there's no real help.

Participant 4 mentioned that he was too proud to admit that he could not cope academically, which prevented him from seeking support. He explained:

> So, it's never been something I've asked for help with or needed help with necessarily. Honestly speaking, the other parts of why I think I don't get any help is because I don't speak up and that's a little bit of my own pride. It's just a matter of I don't want to admit that I'm not managing, but I don't think that's related to the ADD itself.

4.6.2 Utilising Inner Strengths to Function Academically

Many participants indicated that they drew on their inner strengths to cope academically. For instance, Participant 1 indicated that interest in what she was studying and having a long-term goal, helped her remain focused on her academics. She explains: "For me, it was very much something I needed to just like figure out internally. It is definitely self-driven or something… I'm enjoying what I'm doing, and I have a long-term goal". Participant 4 indicated that he relied on willpower to function at the necessary academic level: "With willpower and effort, I can push myself up to the necessary functioning level". Participant 5 explained that he observed what he does to prevent him from functioning appropriately and adjusts his behaviour accordingly. Reading self-help books helped him in this regard. In the interview, Participant 5 said:

> I guess I came up with it myself… I was just observing what I was doing unobtrusively and then adjusting it… I consumed self-help books at an alarming rate for a very long time between grade 12 and first, second and third year… I took those and tried to find ways to create... I guess to exemplify them in a specific practice or study.

4.6.3 Lecture and Lecturer Experiences

Participants' perceptions of support during lectures in relation to their ADHD diagnosis were positive and negative. Four participants indicated that the lectures were too long and that

more breaks were needed. This was evident through Participant 3's response: "Oh, the length of the lectures is horrible… sitting still for long periods of time is hard… I definitely need my break". A few participants indicated that the manner in which lectures were conducted did not consider their learning difficulties associated with their ADHD diagnosis. For instance, Participant 5 described the difficulty of maintaining attention in lectures that require extended periods of listening with no engagement. She said:

> Lectures are tough, very tough to sit, sit and listen. It becomes very gruelling. So, if there isn't something in the lecture that's grasped you and the lecturer isn't engaging, or if it's anything that's heavy on memorisation, it's very daunting because you know deep down that's not your strength at all.

This was further corroborated by Participant 8, who indicated that the traditional way of teaching, doing readings beforehand and looking at slides during the lecture, made it difficult for him to understand the content. This was evident as he said:

> I suppose the ones I didn't find helpful was just, it was just like regular slides and we were just... had readings and then it was a bit more up to me to make that a bit easier to understand.

In contrast, Participant 7 indicated a preference for lectures with little engagement as he felt that too much engagement unnecessarily slowed down the pace and explained this as follows: **"**I'd prefer the risk of falling behind than the questions and going slower and stuff. That is my personal preference".

A few participants expressed having positive lecture experiences. Characteristics of lectures that participants found to be helpful included sufficient breaks and interactive teaching styles. Participant 8 expressed this through the interview by saying the following: "So, the lectures were fun. You know, there were enough breaks during the lectures, that was important. And we got videos, and we had a Facebook group, and we could put questions there".

Some participants described their lecturers as unsupportive in terms of their ADHD diagnosis and not taking individual learning difficulties into account during lectures. Participant 5 expressed this through the interview by saying:

> In retrospect, a lot of the practice of lectures was just doing what they thought was best practice, not necessarily something that was inclusive practice, not something that was inclusive to all students, not in terms of human rights or… inclusive in terms of learning… so, I would say actually that the support you receive is the same as the support you receive if you're not diagnosed with ADD… even though my lecturers know that ADD exists, some of them deny it.

A few participants perceived their lecturers to be supportive in terms of their ADHD diagnosis. For instance, Participant 1 said that her lecturers went beyond lecturing and offered support in time management and stated: "Some lecturers will say, you know if you are struggling, you can come speak to me. I can help you with time management of what you should get done". Some participants perceived lecturers diagnosed with ADHD to be more empathetic and accommodate students better during lectures. Once again, this highlights how people who understand ADHD can better support students. Participant 8 emphasised this in his interview:

> It's helped that one of the lecturers has the same (ADHD)... she's quite open about it. It's not as if I'm divulging anything. But yeah, it's been great to have somebody like that to talk to and who gets it… so, that support has been very helpful.

Participants described helpful resources that some lecturers made available to assist them with studies at home. For instance, Participant 1 mentioned the usefulness of having an app where lectures were uploaded, which allowed her to watch lectures at her own time. Participant 1 describes this as follows:

> And we have an app at LISOF (now Stadio Higher Education) where they upload the lectures, which is very nice and that helps a lot. So, then I can take those, and I make notes, so then I can go through it in my own time, especially with my reading.

Participant 5 perceived lecturers that video-recorded their lectures to be helpful as it allowed him to re-visit content discussed in order to correct any misconceptions. This was described by Participant 5:

> My first-year Maths lecturer was incredible. He recorded every single Maths lecture for us. That's a very inclusive practice because it means that you can… you can attend the lectures and be involved… if something happens while you're learning, while the process is happening, while you're generating a misconception, you can now go and correct that.

4.6.3 Support Received by University's Learning Disability Units

Only two participants indicated receiving support from their university's learning disability units. Participant 6 mainly received support for his comorbid dyslexia at his unit. Participant 6 stated: "So what has helped me is: I've worked at the DRU, and they gave me the things that I told you, which is adaptive technology". Participant 8 utilised the quiet study rooms provided by his university's disability unit and described them as beneficial: "So, what they had there was like a separate area for us to like use computers and little study rooms. So, I love those rooms... they're just so quiet… you can close everything".

Participants perceived the university's academic support provided for students diagnosed with ADHD to be both positive and negative. For instance, Participant 4, received no academic support from the university and explained that it needed to be provided at an earlier stage in the student's life and it is not the university's responsibility to provide support. He argued that providing personalised support to university students would not be viable and be too late. Participant 4 said:

> And if the university is then looking to help the students along, they're almost doing them a disservice… it certainly can't be expected that every student gets their own personalised anything. That would be ideal, but it's just not viable… it's almost too late to help people at university level.

Some participants, who did not receive any academic support, indicated that it would benefit their academic performance and expressed a need for it. For example, Participant 3 argued that she had a disadvantage to other students with no learning disabilities and academic support would level the playing field. Participant 3 explained this by stating: "It would be nice, because I'm not saying that's a disadvantage, but it's... it feels like everyone else has an advantage over me because they can follow what's going on in a lecture".

4.6.4 Exam Experiences

Participants were asked about their experiences of tests and exams and how they are supported in relation to their ADHD diagnosis. Like lectures, some participants indicated that the length of exams was too long, and they needed breaks. Participant 5 emphasised this in his interview: "It's very difficult to focus on a specific test. You just want to look up and break the thing". Participant 3 reiterated Participant 5's view and explained that her attention span during an exam was limited to two hours: "Well as long as the exam's not over two hours, I'm usually fine, but I always take a 'potty' break in the exam time".

Only two participants indicated writing exams in separate venues and described this support as helpful due to the calm and quiet environment. Participant 7 emphasised the benefit of a calm environment: "I suppose it's just a nice and calm environment which obviously lends itself to more of a… for the hyperactivity thing just to like... calm you down I suppose". This was agreed by Participant 8, who also said he did not feel obliged to explain to his classmates the reason for staying longer during an exam and said: "It's quiet, which is nice. And you don't have to explain to other people why you need to stay longer". Participant 3, who had never written in a separate venue, expressed a need for a separate venue and described her ideal exam venue as a place with very few distractions, allowing for self-talk as follows:

> First of all, very scarce. Very clean walls. Very clean ceiling… so, the fewer distractions, the better… would be nice if I could talk out loud. Would be nice because most of the time, in order to formulate my thoughts, I speak, and it helps.

4.6.5 Additional Time

Additional time during exams and participants' perception of this accommodation was also explored in the interview. Only two participants indicated that they utilised additional time during exams. Participant 8: **"**So I applied for extra time". Participant 6 also stated: "I worked with the DRU. Concession. Fifteen minutes per hour for every exam". Many participants mentioned that they were aware of this type of accommodation at their university but stated various reasons for not utilising it. This was demonstrated by Participant 4 through the following: "I'm aware that there are... there's potential for exam time extensions during tests and such, but I haven't explored that".

A few participants indicated that they could finish tests and exams on time and did not need additional time. Participant 5 emphasised this within his interview: "Generally I finish pretty quickly on tests. And part of that is because I hate sitting in test venues". This was reiterated by Participant 3 who had additional time but managed to finish her exams within the normal prescribed time. Participant 3 explained this by stating the following: "Well, I used to have extra time, but I'm finishing all my exams early. So, there's not really a point". Participant 2 indicated that he was not aware of additional time as an accommodation at the university level. Upon hearing that it was offered, he said he would be interested in receiving additional time. Participant 2 said: "I haven't done that yet. I'm definitely considering it. So in university, I thought I should learn to adapt, and I'll just go with it. But knowing it is available, I think I should get it again, honestly".

All the participants were asked about their perceptions of additional time as accommodation, regardless of whether they utilised it or not, and their responses were ambivalent. Some participants described additional time as unnecessary as they viewed the prescribed time as sufficient. Participant 5 emphasised this in his statement:

> I would never go for that. The issue isn't time. The few people that I know who did take it also didn't see the benefit… they finish in the same time… I've yet to understand why five extra minutes per hour will assist someone with a learning disability.

In contrast, Participant 6 expressed that the additional time he received was insufficient, and he required more additional time as his workload increased. He explained: "As it began, it was working for me… but as the workload increased, the accommodations didn't increase. And I started not finishing exams again".

On the other hand, a few participants described additional time as a helpful accommodation. Even though Participant 2 did not use it at the university level, he described it as helpful in school: "It definitely helped me in high school a lot!". This was further corroborated by Participant 8, who described additional time as helpful when he lost time due to getting distracted during exams and said: "It was very helpful because I know I do tend to like get distracted and I might 'faf' or so. I don't know what I would have done without that". However, Participant 8 mentioned feeling guilty for doing well when he had received

additional time: "I felt guilty sometimes, you know because I don't do too badly when I have that".

4.6.6 Importance of Structure and Time Management Strategies

Two participants expressed a need for structure with regards to how course work is presented. Participant 3 highlighted this by the following: "But the actual structure helped me a lot because I was... I'm a structured person. If I don't have a safe routine, I battle". Participant 5 explained how receiving information about important dates and what is expected of a student in each module at the start of a module provided him with the necessary structure that he perceived as helpful. Participant 5 stated:

> For engineering you get your dates from the get-go. You get the date of your final exam and a breakdown of what's expected of you. You get your tutorials. You get your labs. You get everything there. So, you know, from the beginning of the year what you have to do… so, for me, that was hugely beneficial.

As part of a need for structure, some participants mentioned the importance of having time management strategies to keep track of deadlines. Participant 3's statement: "Time management skills. It's something as an ADHD kid... you have to deal with because there's going to be some days when you're just too hyper to work, and you can't focus even with the Ritalin".

Participants described some of the time management strategies that they regarded as helpful. All of these strategies involved a diary system of sorts. For example, Participant 5 explained keeping three different diaries at three different places to keep track of important dates and times. He would ensure that all three diaries' dates and times were consolidated at the end of the day. Participant 5 explains this:

> So, we keep three diaries. When I was in first and second and third year, I kept one in my car, one in my bag and one in my pocket. And if anyone said any date or time, I would take out one of the diaries and write the time down. And then every afternoon, I would make sure all the diaries had the same dates and times. Because I don't have any real perception of the passage of time.

One participant received assistance in time management strategies from the LDC at his university. Participant 8 perceived this assistance as helpful as he understood what activities he could control and how to plan for them. He said: "It was very useful because… I think even though I don't implement all of that find it very difficult. It helped me to see like what I have control over and how I can plan a bit". Another, Participant 2 found his university's online website helpful, which contained important dates and times about tests and assignments, and this provided him with the necessary means to structure his work as follows:

> That's why having this program 'Clicker'... it's like a diary for me. So, it sets it up so I can see if something's due… doesn't always work. Which I'm meant to check my emails as well and that kind of stuff. But that does help a lot… I'm very informal with my structure in the day. But how to structure my work: yes, it definitely does help me.

4.7 Support Needed

Participants further expressed additional support they required related to their ADHD diagnosis. The subthemes in terms of students' needs included academic support, socio-emotional support and greater social awareness of ADHD. Each of these is discussed below:

4.7.1 Academic Support

Participants' accounts of the types of academic support they required varied. For example, Participant 1 proposed support classes to review the content discussed in class. This would allow students who were distracted during lectures to ask questions on concepts they had not understood. Participant 1 explains this as follows: "To have support classes as well. For those who just... they don't understand, maybe". Participant 4 suggested the possibility of extended courses and auxiliary subjects to allow students more time to learn work more rigorously:

> We need an option to extend courses and have auxiliary subjects to them to more rigorously learn the side work... but again, I don't know how viable that is because a lot of people are only... like they've got three years to do this and that's all... that's all they can afford.

Participant 5 argued that a course in learning how learning works would assist students to explore strategies that allow them to perform better academically, especially students that did not learn this in school:

> Many students come from schools that did not have good teachers, that did not have good experiences. So, in general, suggesting ways of work, suggesting… it's almost like I want to say that everyone should take a course in education to learn how their own learning works.

Participant 6 expressed the need for academic support to take students' different learning styles into account. Participant 6 explains:

> I would say it probably needs to be a more diverse spread and something that accommodates other people. Probably needs to have more accommodations for people who are others and other different ways of learning in terms of like... ja, auditory.

Two participants described how they could be better supported during lectures. For example, Participant 3 expressed the need for a smaller venue where all students with ADHD could be taught together at a slower pace and content repeated. Although this might not be a feasible option, this request taps into a need for lectures where students with subtype "Inattention" can have the opportunity to ask for work to be repeated when they get distracted. Participant 3 explains this as follows: "I think for ADHD kids, if we had a smaller venue… all the ADD kids in one class so the lecturer could go slower. She could repeat things without making us feel stupid". Participant 1 reiterated this need: "So to provide that space where they can ask for help. Have it re-explained but, uhm, actually have a class for it, you know?" Participant 4 alluded to an environment similar to tutorials when he expressed a need for a space where he could be assisted in studying. Participant 4 said:

> Ideally, for me, the type of support that would work would be an almost supervised study if that makes sense. Assisted studying. So, a space where I can go and then it's… where it's someone can assist you in getting your thoughts right when you come in to study.

In addition to smaller class sizes, some participants described the usefulness of tutorial lessons and expressed a need for more of these. Participant 5 said: "Something that was very useful was also tutorials". This was further corroborated by Participant 6 who has one-on-one tutorials with a private tutor: "I work with my tutor and she helps me in terms of like... so, she makes me very disciplined. She helps me when I'm studying for my tests". Participant 3 restated her need for smaller classes saying that she could learn more during tutorials as she felt more comfortable asking questions. Her response in the interview was: "I learn more in the tutorials than I did in the actual lecture… and I can ask questions without feeling like an idiot".

In contrast to the positive reviews of tutorials, some explained that tutorials were not always a useful means of support. For instance, Participant 1 indicated that she did not find tutorials helpful as she likened it to being babied. She said: "But for me to be like almost babied, or helped like with assistance, it doesn't really help me at all". Participant 2 also did not attend tutorials as he explained that he worked better independently. Participant 2: "I know there's advertisements for tutors. I don't personally use them because I personally work a lot better figuring things out myself". Participant 5 described the importance of tutorials as spaces where students can ask questions about content discussed in class instead of only discussing previous test papers. Participant 5 explains:

> For Mechanics, I had to do many tests every tutorial. That wasn't really beneficial, it was just an added stress. But for Maths, it was a time when you had a tutor… and if you have a question, you can ask which you can't do in a lecture theatre. So, you'd be able to do your work, rock up to the tutorial and say, 'Here's what I've done, where have I gone wrong?'… so, structuring the course like that was very useful.

Two participants indicated that academic support needed to be offered before students enter university. Participant 3 indicated that she never learned the necessary skills to cope with academic difficulties associated with ADHD. She said: "I wish I were given the tools when I was younger to actually cope because what happened was like, 'Oh, you have ADHD. Here's some meds'… I don't have the tools that other kids have". This was corroborated by Participant 4, who argued that students should acquire the necessary skills to cope academically while they are in still school. According to Participant 4, it is not the university's responsibility to provide students with ADHD with academic support. He stated:

> The schooling needs to cater to assist students to apply their strengths. So that they can feel as though they can progress themselves. And I don't know how much more the university can do to help the students necessarily, because the problem is, is that they are simply too many and there's too much work needed to be done at university for the university then to spend time teaching students on how to learn… because once you're at varsity... yes. I say it's almost too late, but it's too late if you want to try and do it all at once.

4.7.2 Support Groups

Two participants communicated a need for support groups that would allow them to share their experiences of living with ADHD with other students with the same diagnosis. Participant 7 emphasised this in his interview:

> And so, I think that that could have been very useful... I don't know like even if it's like a meeting or… ja, I don't know of people who are all using this together and sort of sharing experiences.

In her account, Participant 3 added that a support group would be a good space to share experiences and useful coping strategies:

> Socially, obviously, a support group would be nice. Because if there was an ADHD kids support group just with ADHD kids and like a psychologist or psychiatrist there to go, 'Listen, I'm having problems with this. What can I do?' Or 'Are you also dealing with this?' 'Yeah, I am.' 'Okay, cool.' There's a connection.

4.7.3 Social Awareness

Many participants expressed a need for greater social awareness of ADHD and its impact on university students diagnosed with the disorder. Participant 8 stated: "Maybe just like a greater understanding. A better social understanding of why I like behave the way I behave without me using that as an excuse". Participant 5 said that an awareness of ADHD is needed as many people might not be aware that they could potentially have the disorder. Participant 5 explains: "I think that so few students who have ADD, know that they have ADD".

Some participants indicated that especially educators needed to be made more aware of ADHD to understand students' struggles in the classroom better. Participant 1 emphasised this within her interview: "I think awareness for others around you would help a lot. Especially people who are like teachers and stuff. I really think that they should be more understanding… but there's not much awareness about it".

4.8 Conclusion

In conclusion, the results outlined in this chapter highlight the perceptions of support among university students diagnosed with ADHD. It became apparent that ADHD students used various support systems within the biopsychosocial model. Similarly, students had mixed responses in terms of their perceptions of the support they received. Chapter 5 discusses the findings from this study in relation to the literature reviewed in Chapter 2.

CHAPTER 5: DISCUSSION

5.1 Introduction

This chapter of the research report will summarise the research findings based on the themes that emerged from the research questions. The research questions explored the perception of support among university students diagnosed with ADHD. The results provided in Chapter 4 will be discussed in relation to Engel's (1977) biopsychosocial model, which was the conceptual framework used in the study. The implications of the research findings are discussed, and the limitations of the study. There are recommendations for future research in this field.

5.2 Summary of Research Findings

This research study aimed to explore the perception of support among university students diagnosed with ADHD. The participants' responses to each of the research questions are discussed below.

5.2.1 What Support Systems do University Students Diagnosed with ADHD Utilise?

Participants' support systems were investigated according to the biopsychosocial model (Engel, 1977). These include biomedical, psychosocial and academic support.

5.2.1.1 Difficulty Distinguishing Between ADHD Symptoms and Comorbid Disorders

Researchers have commented on comorbid disorders, and the difficulty for individuals with ADHD to distinguish between the symptoms of ADHD and the overlapping symptoms of other disorders (Sadock et al.,2015; Milberger et al., 1995; Udal et al., 2014). Therefore, it is nearly impossible to explore ADHD and associated support systems without acknowledging comorbid disorders. The present study confirmed findings in other research studies (Sadock et al., 2015; Udal et al., 2014) indicating students' uncertainty about whether ADHD or a comorbid disorder causes their behaviour. Many participants in the study indicated that they could not distinguish between ADHD and comorbid disorders when identifying causes for specific behaviour. This implies that students receive insufficient information from health care practitioners who diagnosed them ADHD and comorbid disorders in terms of the appropriate treatment for each disorder. Inadequate or limited information may prevent students from seeking and receiving appropriate support.

5.2.1.2 Medication

In terms of treating ADHD, the literature indicates that medication is the cornerstone of treatment for people diagnosed with ADHD and the first line of treatment in adults (Kaplan & Sadock, 2014; Schoeman & Liebenberg, 2017). The present study supported findings in the literature, as most participants indicated that they used medication to treat their symptoms of ADHD. The few who did not use medication at the time of the study indicated they had taken medication previously. Their reasons for not taking medication included health reasons, for example, epilepsy after an overdose or finding alternative ways to deal with their symptoms. The findings suggest that medication seems to be the most well-known and often the only form of treatment utilised in terms of awareness of available treatment. This finding corroborated studies by Kern et al. (2015) that prevalent interventions fail to address biological, psychological and social systems that influence the cause of ADHD. This raises concern whether university students are aware of other psychosocial treatments and if other support systems are promoted as rigorously as medication.

5.2.1.3 Psychosocial Support

Regarding psychosocial support, this study investigated the support systems utilised at a socio-emotional and academic level. According to Schoeman and Liebenberg (2017), psychosocial treatment consists of psychoeducation, CBT, supportive coaching and assistance with other daily activities. Very few of the treatment options related to socio-

emotional wellbeing, as was mentioned by these authors were utilised by this study's participants.

On a socio-emotional level, some participants indicated that they were not receiving support and relied on themselves to discover ways to cope, for example, through journal writing or exercise. This supports Gulliver et al. (2010), indicating that young people tend to rely on themselves more when dealing with mental health-related difficulties. Furthermore, it corroborates findings by Kysow et al. (2017) who indicated that adults with ADHD relied less on external support and instead developed more compensatory strategies, such as adapting and organising their environment, paying attention to their behaviour and avoiding certain situations. It also emphasises young people's lack of awareness of mental health services available. However, most participants later mentioned feeling supported either by friends or family members in general. Some of the socio-emotional support systems identified included friends, family members, lecturers diagnosed with ADHD and therapists. Therefore, from the study, it is evident that many students with ADHD receive some support on a socio-emotional level but cannot recognise this as a means of support, perhaps due to its informal structure.

5.2.1.4 Academic Support

At an academic level, some participants indicated there was no support for students diagnosed with ADHD or were unaware of any available support. Other participants were aware of support systems available but did not seek it. This is in line with the study reviewed by Green and Rabiner (2012) that indicated less than half of students with access to accommodations utilised it. It also supports findings by Magnus and Tøssebro (2014), indicating students have difficulty imagining the benefits of accommodations due to inadequate information.

Participants who did not utilise any external academic support indicated that they discovered strategies to cope with academic demands. These participants relied on their inner strengths to deal with academic problems indicating the importance of enjoying tasks, setting clear goals, and using willpower to accomplish tasks. This supports literature by Brown (2013) that stated the importance for students with ADHD to enjoy tasks in order to overcome motivational deficits. Possible reasons for not seeking out academic support could be the stigma associated with ADHD and viewing additional support as a weakness, consistent with research by Denhart (2008). In that study, nine out of ten college students diagnosed with

learning disorders in the United States were reluctant to request accommodations for fear of invoking stigma.

Not many participants received support from their university's learning disability units to assist with their academic learning. Those who did, received assistance in the form of quiet study rooms or assistance with time management, for example, creating diaries. Only two participants indicated that they received additional time for tests and exams. Some participants indicated attending tutorial lessons for work they missed in lectures re-explained due to being distracted – the lack of awareness of support systems available at the university warrants further investigation. Future research should investigate the factors that prevent students with ADHD from receiving more information about available support.

5.2.2 What are Students' Perceptions of Support in Relation to Their ADHD?

5.2.2.1 Medication

The literature indicates that stimulant medication is an effective first-line treatment for some adults (Du Paul et al., 2009; Wilens et al., 2002) but that stimulants are ineffective in up to 50 per cent of adults (Wilens et al., 2002). According to Sadock et al. (2015), ADHD medication increases attention span, improves mood, and decreases impulsiveness. However, they noted physical side effects associated with ADHD medication usage. This study's findings revealed mixed views regarding participants' perception of medication as a form of treatment. All the participants who indicated using medication for their ADHD stated that it was effective in assisting them to remain focused and concentrate in class and while they were studying. It supports claims by Du Paul et al. (2009) that college students respond positively to ADHD medication. However, it is incongruent with findings by Wilens et al. (2002) indicating efficacy in only 50 per cent of adults.

According to Green and Rabiner (2012), many participants reported that ADHD medication often kept them focused on factors that distracted them from their work. For instance, participants indicated that if their medication came into effect while they were busy on their phones, they would not redirect their focus to the academic tasks at hand. This finding validated findings by Fleming and McMahon (2012), who asserted that ADHD medication alone could not resolve university students' lack of self-regulation skills like planning and organisation. Some participants reported misusing medication due to impulsivity, and some students reported past experiences of overdosing. This raises concern about how medication usage is being communicated and monitored by professionals prescribing them. It further raises whether medication should be prescribed to students diagnosed with

subtype impulsivity. In contrast to claims made by Sadock et al. (2015) that ADHD medication is associated with improved mood, many participants reported negative effects of medication on their moods, and some felt socially repressed and isolated while on medication. All the participants experienced some physical side effects from ADHD medication, for example, suppressed appetite, insomnia, headaches and nausea as stated in the literature (Schoeman & Liebenberg, 2017).

5.2.2.2 Psychosocial Support

Participants in the present study discovered coping strategies to cope on a socio-emotional level – this included journal writing and exercise. Journal writing was reported as helpful in that it allowed participants to be more focused and make sense of their behaviour. This is in line with previous studies by Kerner & Fitzpatrick (2007), Pennebaker (2004) and Daiute & Buteau (2002) that highlighted the efficacy of journal writing as a psychological factor to create awareness of one's behaviour and reflect on it. However, journal writing is not mentioned in the literature in relation to dealing with ADHD on a socio-emotional level. Participants who received therapy, perceived it as a supportive structure to give them insight into their behaviour and improve their confidence. There is currently little research to support psychotherapy as a beneficial treatment for adults with ADHD. However, previous studies have concluded that psychotherapy treatment is beneficial for childhood ADHD (Schoeman & Liebenberg, 2017). This implies that it is equally beneficial to young adults with ADHD. Participants who exercised indicated it helped them get more sleep which allowed them to function better the following day. This finding corroborated research by Archer and Kostrzevra (2012) and Schoeman & Liebenberg (2017), which indicates an association between physical exercise and reducing ADHD symptoms.

Participants reported mixed perceptions of their support from friends from feeling understood and supported to not feeling understood and supported. Similarly, romantic partners who understood students' circumstances were regarded as more supportive than those who did not. Romantic partners who denied the existence of mental health issues were viewed as not supportive. Similarly, participants experienced their parents as supportive when they had a good understanding of ADHD. From these findings, it is clear that people who possess sufficient information about ADHD, whether through education, working with other people with ADHD or diagnosed ADHD themselves, are perceived as more supportive by students with ADHD. This agrees with Moak and Agrawal (2009), who claimed that if an individual perceived an increase in their interpersonal social support, it was associated with a decreased likelihood of mental health issues.

In this study, participants perceived time management strategies assisted them in organising their daily lives, which is consistent with the literature (Fleming & McMahon, 2012). Diaries helped them remember important dates and use their time effectively to submit work on schedule. Some participants devised diary systems, whereas others received assistance with these dairies from the DRU. Also, student portals on university's websites that note important dates are seen as a helpful tool to remind students of deadlines.

In the literature, university students have stated that they do not perceive their professors to accommodate their disabilities (Perry & Franklin, 2006) and experience more problems with classical teaching and evaluation methods (Jansen et al., 2017). The present study supported these claims. In general, participants felt that most lecturers did not recognise their ADHD and did not use inclusive education practices to support them. Lecturers diagnosed with ADHD and mindful of learning disabilities were seen as more supportive. Also, many participants indicated the usefulness of lecturers providing them with resources to continue their studies at home. Helpful resources included video recordings of lectures and presentation slides used during the lecture. These resources made it possible for students to revise content discussed that they might have missed in the lectures, at their own pace. These findings suggest a need for more awareness among lecturers of the difficulties faced by ADHD students. It also calls for teaching and evaluation methods at universities to be re-evaluated and adjusted to accommodate their learning needs.

Some participants indicated the usefulness of tutorials as an extension of the lectures. Tutorials provided the opportunity to have content re-explained and allowed students to ask questions they could not ask in the lecture. Tutorials that focused on revision were viewed as more helpful than tutorials that only focused on test or exam paper discussions. No literature was available that explored how university students with ADHD perceived tutorials. However, it supports findings by Alsopp et al. (2008) in that students benefit from the Individualised Instructions Model due to its individualised nature and the supportive relationship established between instructor and student. This teaching model incorporates learning strategies selected based on students' individual learning needs and their course demands.

Participants who wrote tests and exams in separate, distraction-free venues described them as quiet and calm and stated that the separate venue provided them with anonymity to use additional time without being questioned by classmates about this accommodation. This

finding corroborates findings in the literature that mentioned the benefits of distraction-free testing environments for students with ADHD (Wagner et al., 2005; Ofiesh et al., 2015).

Participants' perceptions of additional time during tests or exams varied in the present study. Many participants indicated that they could finish tests and exams within the prescribed time and therefore, did not utilise the accommodation. These participants believed the additional time was unnecessary. This is in line with literature stating that not all students who experience a specific problem view the same reasonable accommodation as effective (Jansen et al., 2017). On the other hand, most participants who utilised additional time as an accommodation, described it as helpful as they reported being distracted during tests and exams. The additional time provided them with an opportunity to make up for the time they lost being distracted. Only one participant felt that the additional time provided during tests and exams should increase proportionally as the workload grew each year.

5.2.3 In What Areas do University Students, Diagnosed with ADHD, Require Additional Support?

Perry and Franklin (2006) state a need for greater awareness of ADHD beyond childhood and adolescence. The present study supported this notion, as many participants felt that there was still too much stigma associated with ADHD. Many expressed a need for greater awareness of the disorder's existence beyond childhood and its effect on university students' learning and behaviour. Therefore, awareness of ADHD needs to be extended to all people who interact with students with ADHD, such as other students, not just lecturers or parents. Participants argued that a greater awareness of ADHD and its impact on their learning and behaviour would create more understanding among lecturers and students without ADHD due to repeatedly asking clarifying questions during lectures. In addition, participants expressed a need for students without ADHD to be made aware of the purpose of academic accommodations for ADHD students as a necessary tool to level the playing field.

Many participants mentioned insufficient knowledge with regards to their ADHD diagnosis and the treatment options available. More information in psychoeducation is essential, especially concerning medication, the side effects and potential risks, and overdose. This supports findings by Solberg et al. (2019) in which half of the participants in their study reported lacking information about ADHD and medication treatment. The authors found a strong correlation between information received about medication and overall satisfaction among adults with ADHD.

The current length of lectures is challenging, and participants would like more breaks during lectures to accommodate their limited attention span. Some participants requested breaks during exams, and exam venues that are free of distractions. This is consistent with the study by Ofiesh et al. (2015), where students asked for frequent breaks and test environments free of distractions. A few participants who did not use additional time asked for this accommodation.

Many participants indicated that they would benefit from support classes such as tutorials where concepts discussed during lectures could be explained again. Also, they requested a space where they could ask the questions they did not feel comfortable asking during the lectures. Since participants are easily distracted and consequently miss important information, participants expressed a need for more student-centred and collaborative lectures. This is in line with research findings highlighting the problems experienced by ADHD students during classical teaching and evaluating methods (Jansen et al., 2017). Many participants mentioned the need for support groups to allow them to interact with other students with ADHD. Due to the stigma associated with ADHD, students might be less likely to disclose their diagnosis, which prevents them meeting other students with ADHD. Support groups might help them feel less isolated and provide them with the opportunity to share their experiences and learn what successful coping strategies others have used (Fleming & McMahon, 2012).

5.3 Implications of the Findings

The present study's findings contributed towards the limited research concerning university students' perceptions of support, both internationally and in South Africa. The study specifically contributed to the paucity in research about university students' understanding of psychosocial support within Engel's (1977) biopsychosocial model.

The findings of this research study highlighted the stigma still associated with ADHD, which leads to students being reluctant to use available support systems. Many participants were uneasy, saying that these support systems may stigmatise them even further. These stigmas are frequently associated with insufficient knowledge about ADHD among the general public, including students without ADHD and lecturers. Thus, students and lecturers would benefit from receiving psychoeducation on the aetiology of ADHD, its symptoms, and how these symptoms could hamper academic performance. Learning Disability Coordinators could conduct information sessions on ADHD during university orientation programmes at the start of the year.

Many students in the current study indicated difficulty distinguishing between their ADHD and comorbid disorders, which prevents them from seeking out the appropriate interventions. Educational psychologists and learning disability coordinators could psycho-educate students on identifying disorders and available treatment options.

The study further provided insight into students' perception of support systems utilised in relation to Engel's (1977) biopsychosocial model. In terms of students' knowledge of the support available within the biopsychosocial model, most students are aware of medication to treat ADHD (biomedical support) but are unaware of support services available at a psychosocial level. These include CBT and coaching and academic interventions such as additional time, quiet study rooms and distraction-free test venues. Institutions might have to reassess how to advertise these support services to all students. For instance, playing short videos on the university's home page informing students with ADHD about available support systems. Alternatively, institutions could send out a text message to students' phones outlining the support available.

In terms of medication treatment in the biomedical dimension, the study highlighted a lack of information among university students diagnosed with ADHD about the risks involved in medication treatment, for example, mood shifts, loss of appetite, possible misuse and overdose. Professionals involved in diagnosing ADHD, such as general practitioners, psychiatrists and neurologists need to psycho-educate students on potential risks and make them aware of other treatment options within the biopsychosocial model.

Some students reported that they identified strategies to cope with ADHD, such as journal writing. Educational psychologists and learning disability coordinators could add these existing strategies when assisting students with support. Many participants in this research study suggested support groups that would allow them to meet other students with ADHD as this might help them feel less isolated and provide an opportunity to share information and successful coping strategies. Therefore, professionals such as educational psychologists and learning disability coordinators should consider conducting support group sessions.

Policymakers at the Department of Higher Education and Training need to review inclusive education policies to ensure lecturers provide inclusive classroom practices at a tertiary level to better accommodate students with ADHD. In addition, lecturers will benefit from workshops and booklets that provide information on strategies to accommodate students with ADHD. These strategies should include collaborative class discussions and frequent

breaks during lectures. Lecturers should also consider making online resources available to allow students to revise the content at their own pace. This study also highlights the need for tutorials as an extension to lectures. Lecturer support staff and tutors should consider offering tutorial classes for students with ADHD to allow them to ask questions they do not feel comfortable asking during lectures.

5.4 Limitations of the Study

Documented literature which examines ADHD among university students is limited. Therefore, some findings in the current study could not be supported or contradicted by other studies. Sourcing participants for the current study proved challenging. One possible reason could be that participants did not perceive any direct benefits in participating in this study. Another reason could also be the stigma that participants in this study described concerning their diagnosis of ADHD. Due to the sample size of eight participants, research findings cannot be generalised to larger populations with the same degree of certainty as in quantitative analysis (Atieno, 2009). Except for two participants, the majority of participants were students at the University of the Witwatersrand, and therefore the current study does not reflect the perceptions of students at other institutions.

5.5 Recommendations for Future Research

Further research is needed among university students in South Africa to contribute to the current study and international studies. Future studies could include larger quantitative or mixed methods data collection methods. The focus of this study was on students with ADHD enrolled at three universities in South Africa. More research is necessary to explore support systems available at other universities in South Africa and how those students perceive this support. Furthermore, findings in this study exclude students with ADHD at other tertiary institutions, such as Further Education Training Colleges who experience similar adjustment difficulties when they leave home and the school system and transition into other tertiary institutions.

The results suggest a lack of awareness of available support, and further research is needed to evaluate the efficacy of current strategies undertaken by universities to promote interventions. Future research could also include a diverse sample from different cultures and socioeconomic groups to determine the role these variables play in students' perception of support. For instance, different ethnic groups hold different cultural beliefs, highlighting other perspectives on support. These variables were not explored in this research study.

Lastly, more research is needed to identify how lecturers can support students during lectures and make learning more interactive and collaborative.

5.6 Conclusion

Research, investigating support systems for individuals diagnosed with ADHD, has mainly focused on children and adolescents. Attention-Deficit/Hyperactivity Disorder in adults has received much less attention and research investigating the disorder among adults is still limited. More recently, university students diagnosed with ADHD have become an area of interest, specifically in terms of support systems available to them and their perceptions of the support. Previous research has predominantly focused on the relationship between support and academic performance, but very little research has explored students' opinions of the support. This study used Engel's (1977) biopsychosocial model to explore current support structures used by university students and their views of these support systems in relation to their ADHD diagnosis. It further aimed to identify areas in which they require further support. Future research should explore students' perception of support at other universities in South Africa. In addition, research must evaluate the efficacy of universities' strategies to promote interventions. Young adults with ADHD are entering tertiary institutions at an increasing rate worldwide. Therefore, this research is vital in the area of ADHD among university students, particularly in relation to the support available and their perception of it.

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APPENDICES

Appendix 1: Letter to request permission to advertise study (Disability Rights Unit)

Psychology Department
School of Human and Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011)717 4500 Fax: (011) 717 4559

Request for permission letter to advertise study.

Dear Mr. Yates,

Thank you for taking the time to discuss my research study: *Perceptions of support among university students diagnosed with Attention-deficit/hyperactivity disorder.* I appreciate your input in giving me insight into the number of students with ADHD you are working with and how you support them at the University of the Witwatersrand's Disability Rights Unit. I also appreciate your willingness to email these students the Participant Information Sheet and allowing me to place a poster, advertising the study, on the unit's notice board. Please find attached the ethical clearance certificate from the Human Research Ethics Committee (non-medical).

Please do not hesitate to contact me should you require any further documentation.

I look forward to receiving your permission letter.

Kind regards,

Zarius Grove

0672777831
zarius.grove@gmail.com

Appendix 2: Letter to request permission to talk to psychology students (Head of Psychology Department)

Psychology Department
School of Human and Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011)717 4500 Fax: (011) 717 4559

Permission to address students in the Psychology Department regarding my research study.

Perceptions of support among university students diagnosed with Attention-deficit/hyperactivity disorder

Dear Dr Gwandure,

My name is Zarius Grove, and I am currently doing my Psychology Master's degree in Educational Psychology at the University of the Witwatersrand. I will be conducting a qualitative study which explores university students' perception of support systems in relation to Attention-deficit/hyperactivity disorder (ADHD). In the study, students diagnosed with ADHD will be interviewed, using a semi-structured interview schedule.

I am writing to request permission to inform students about the study at the start of Psychology lectures in the 3rd block. Once ethical clearance has been obtained from the Human Research Ethics Committee (non-medical) and permission to approach participants has been granted by the registrar's office, I will approach the relevant Psychology Department lecturers and ask permission to talk about the study before the start of their lecturers. I will briefly inform students about the aim of the study, explain what the research process will entail as well as the criteria for eligible candidates. I will then leave a few copies of the Participant Information Sheet, containing more detailed information as well as my

contact details, in the lecture hall for students who are interested in participating. The entire information session should not take longer than 5 minutes.

A copy of the Participant Information Sheet is attached herewith. Please do not hesitate to contact me should you require any further documentation.

I look forward to hearing back from you at your earliest convenience.

Kind regards,

Zarius Grove

_____

0672777831
zarius.grove@gmail.com

Appendix 3: Poster for advertising the study

Are you a student diagnosed with Attention-deficit/hyperactivity disorder (ADHD)?

If you are, researchers at the University of the Witwatersrand are doing research to find out how you perceive support in relation to your ADHD diagnosis.

To take part you need to:

1) Be older than 18 years
2) Be formally diagnosed with ADHD by a medical practitioner (such as a psychiatrist, pediatrician or neurologist
3) Be enrolled at the University of the Witwatersrand

Understanding how you perceive current support and what areas you might require additional support in could assist in how to support university students with ADHD holistically.

If you are interested in sharing your experience with us, or have any questions, please contact:

Zarius Grove
0672777831
zarius.grove@gmail.com

Dr Zaytoon Amod
0117178326
zaytoon.amod@wits.ac.za

Psychology Department
School of Human and Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011)717 4500 Fax: (011) 717 4559

Appendix 4: Participant Information Sheet

Psychology Department
School of Human and Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011)717 4500 Fax: (011) 717 4559

Perceptions of support among university students with Attention-deficit/hyperactivity disorder.

Dear Student,

Good day. My name is Zarius Grove, and I am currently doing my Psychology Master's degree in Educational Psychology at the University of the Witwatersrand. I am conducting a study which explores university students' perception of support systems in relation to Attention-deficit/hyperactivity disorder.

I would like to formally invite you to take part in my research study. This will involve you taking part in an interview with me on the topic above. The interview should last approximately 60 minutes and participation is completely voluntary. Taking part in the interview will not disadvantage you in any way. Therefore, there are no foreseen risks to you or others, as well as no benefits to you or anyone else for taking part in this study. For analysis reasons, the interview will be audio-recorded if you provide consent for this. However only my supervisor and I will have access to these tapes. Once the information of the interview has been transcribed verbatim, the tapes and transcripts will be locked away and finally destroyed after five years. Although I will have access to your name, you will remain anonymous and anonymity will be maintained by not disclosing any of your personal information in my results or the final research project. During the study, I will assign pseudonyms to all the participants. While direct quotations may be used, your confidentiality will be assured. Importantly, you have the right to withdraw from this study at any time and

therefor also have the right to not answer any questions that you do not wish to, without any consequences.

You may be called back for a follow-up interview, however, you are not obligated to participate in the follow-up interview. The choice not to participate will not affect your first interview nor will you be penalized if you choose not to.

Once the study has been completed, you may request a summary of the study and the findings if you so wish and this can be emailed or sent to you by either my myself or my supervisor. You can find our contact details at the end of this letter and the results will be available about nine months after the data collection. Please note that the research findings may be published in a journal or as a book chapter.

If by the end of the interview you feel the discussion has elicited sensitive and emotional effects in you, then please make use of the free support and counselling that is available below:
Emthonjeni Community Psychology Clinic (Based at Wits University) – 011 717-6396
Contact person: Ms Paballo Lepota.
Counselling and Careers Development Unit (Based at Wits University) – 011 717 9140/32
Disability Rights Unit (Based at Wits University) – 011 717 9153
Contact Person: Mr. Duncan Yates

Before the interview can begin, I will ask you to read through and sign two consent forms. These forms will just confirm that you understand what is required of you and the confidentiality for the study. If you have any questions or concerns, please feel free to contact myself or my supervisor.

Kind regards,

Zarius Grove
0672777831
zarius.grove@gmail.com

Dr Zaytoon Amod
0117178326
zaytoon.amod@wits.ac.za

Appendix 5: Participant Consent Forms

Psychology Department
School of Human and Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011)717 4500 Fax: (011) 717 4559

Perceptions of support among university students with Attention-deficit/hyperactivity disorder

I, _____ consent to taking part in the individual interview conducted by Zarius Grove, for his study exploring the perceptions of support systems among university students with Attention-deficit/hyperactivity disorder.

As a participant in his study, I understand that:

- My participation is voluntary.
- There are no foreseen risks to me or others, as well as no benefits to me for taking part in this study
- I am able to withdraw from the study at any time.
- I do not have to answer any questions I do not wish to.
- I may be called back for a follow-up interview, but I am not obligated to participate in the follow-up interview. The choice not to participate in the follow-up interview will not affect my first interview nor will I be penalized if I choose not to.
- All my personal details and information will remain private and confidential, although I may be quoted in the final report.
- If however I am quoted, it will be under a pseudonym given to me.
- None of my personal information will be stated in the final research report (My identity will remain anonymous).
- The results of the study will be used in the research report that is required for the completion of the Master's in Educational Psychology degree.
- Research findings may be published in a journal or as a book chapter.

Signed:_____

Date:_____

Psychology Department
School of Human and Community Development
University of the Witwatersrand
Private Bag 3, WITS, 2050
Tel: (011)717 4500 Fax: (011) 717 4559

Perceptions of support among university students with Attention-deficit/hyperactivity disorder

I, _____ consent to the audio-recording of the individual interview with Zarius Grove for his research study. I understand that:

- The tapes and transcripts from the interview will remain confidential to only Zarius and his supervisor and therefore will not be available to anyone else.
- The tapes and transcripts will remain on a password-protected computer until they are destroyed five years later.
- No personal or identifying information about any of the participants will be used in the transcripts for the final research report.
- Although I may be quoted in the research report, I will be referred to by the pseudonym given to me at the beginning of the interview, and thus my identity will be protected.

Signed:_____

Date:_____

Appendix 6: Semi-Structured Interview Schedule

Demographic and Background Information:

1. What is your age range? (18-21, 22-25, >25)
2. What are you studying?
3. What year of study are you in?
4. What made you choose this particular field of study?
5. How old were you when you were first diagnosed with ADHD?
6. What is the sub-type you were diagnosed with?
7. Who were you diagnosed by?
8. Were you diagnosed with any other disorders for example learning disorders, anxiety, depression or conduct disorder?
9. Could you tell me if you are currently on any medication? Please specify.
10. If you are on medication, how do you feel about this? (Probe – does it help? Is the ADHD managed with the medication? Are there any side effects?)

Guiding questions pertaining to the research:

1. What is it like being a student with ADHD?
2. Do you think that your diagnosis of ADHD plays a part in your learning? Please elaborate.
3. What is university like for you academically? (Probe further about length of lectures, studying for tests and exams, actual tests and exam experiences.)
4. Could you share any challenges you currently have academically? (Probe about lectures, assignments and tests/exams. If they have a comorbid disorder, ask about the challenge in relation to that as well for example, how is your comorbid disorder affecting your academic performance?).
5. How are you being supported academically? (Probe further about any accommodations for example extended time, time management, study plans and so forth.)
6. How do you feel about academic support that you receive? (What works, does not work?)
7. How do you think you are coping socially with ADHD?

8. How are you being supported on a social level? (Probe further about what works/does not work?)
9. How do you think that you are coping emotionally with ADHD?
10. How are you being supported on an emotional level? (Probe further about what works/does not work.)
11. Can you tell me if there are any other areas in relation to the ADHD that you need support in (medically, academically, emotionally and in terms of your relationships with friends, partners and family)?
12. Is there anything else you would like to add related to this research on ADHD among university students?

Debrief questions

1. How did you experience the interview?
2. Is there any other assistance that you think you require?
3. Are you feeling alright to finish the interview?

Appendix 7: DSM-V Diagnostic criteria for ADHD

Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder

Diagnostic Criteria

A. A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):

1. **Inattention:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:
   Note: The symptoms are not solely a manifestation of oppositional behavior, defiance, hostility, or failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.
   a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities (e.g., overlooks or misses details, work is inaccurate).
   b. Often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or lengthy reading).
   c. Often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction).
   d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly loses focus and is easily sidetracked).
   e. Often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines).
   f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g., schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers).
   g. Often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
   h. Is often easily distracted by extraneous stimuli (for older adolescents and adults, may include unrelated thoughts).
   i. Is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments).

2. **Hyperactivity and impulsivity:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:
   Note: The symptoms are not solely a manifestation of oppositional behavior, defiance, hostility, or a failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.
   a. Often fidgets with or taps hands or feet or squirms in seat.
   b. Often leaves seat in situations when remaining seated is expected (e.g., leaves his or her place in the classroom, in the office or other workplace, or in other situations that require remaining in place).
   c. Often runs about or climbs in situations where it is inappropriate. (**Note:** In adolescents or adults, may be limited to feeling restless.)
   d. Often unable to play or engage in leisure activities quietly.
   e. Is often "on the go," acting as if "driven by a motor" (e.g., is unable to be or uncomfortable being still for extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with).
   f. Often talks excessively.
   g. Often blurts out an answer before a question has been completed (e.g., completes people's sentences; cannot wait for turn in conversation).
   h. Often has difficulty waiting his or her turn (e.g., while waiting in line).
   i. Often interrupts or intrudes on others (e.g., butts into conversations, games, or activities; may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

B. Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years.
C. Several inattentive or hyperactive-impulsive symptoms are present in two or more settings (e.g., at home, school, or work; with friends or relatives; in other activities).
D. There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning.
E. The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication or withdrawal).

Appendix 8: Ethical Clearance Certificate

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG

HUMAN RESEARCH ETHICS COMMITTEE (SCHOOL OF HUMAN & COMMUNITY DEVELOPMENT

CLEARANCE CERTIFICATE	**PROTOCOL NUMBER: MEDP/19/004 IH**
PROJECT TITLE:	Perceptions of support among university students diagnosed with Attention-deficit/Hyperactivity Disorder(ADHD).
INVESTIGATORS	Grove Zarius
DEPARTMENT	Psychology
DATE CONSIDERED	16 May 2019
DECISION OF COMMITTEE*	Approved

This ethical clearance is valid for 2 years and may be renewed upon application

DATE: 16 May 2019

CHAIRPERSON
(Dr Zaytoon Amod)

cc Supervisor:

Dr Zaytoon Amod
Psychology

DECLARATION OF INVESTIGATOR (S)

To be completed in duplicate and **one copy** returned to the Secretary, Room 100015, 10th floor, Senate House, University.

I/we fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure be contemplated from the research procedure, as approved, I/we undertake to submit a revised protocol to the Committee.

This ethical clearance will expire on 31 December 2021

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES

Appendix 9: Codes

Research Question	Codes
1. Support utilised	Medication
	Social Support
	Emotional Support
	Academic Support
2. Perception support	Medication - Positive
	Medication – Negative
	Social Support
	Emotional Support
	Lectures
	Support by university
3. Support Needed	Social
	Emotional
	Academic
	Other