

**THE GOOD, BAD AND UGLY OF UNTREATED CHILDHOOD
ATTENTION DEFICIT HYPERACTIVITY DISORDER
THROUGH THEIR VOICES AS ADULTS**

BY

NABEELAH KHAN

211510420

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Supervisor: Dr. V. Jairam

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DECLARATION

I, Ms. Nabeelah Khan (student number: 211510420), hereby declare that this dissertation is my original work and has not been previously submitted by me to any other university. I have properly acknowledged all the sources cited and referenced in this work.



Researcher: Ms. Nabeelah Khan

Date: 18/09/2024

DEDICATION

I wholeheartedly dedicate this dissertation to the Almighty Allah, whose guidance and blessings made this achievement possible. I also dedicate this work to my husband, Zubair Gause, who has been my pillar of strength and my greatest supporter throughout this journey. Your unwavering support and unconditional love have carried me through.

To my mother, Zubeida Vahed, who has always gone above and beyond to ensure I had the best opportunities in life—everything I am today is a testament to your love and sacrifices. I admire you deeply for all that you are and all that you have accomplished.

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“One who cannot thank people, cannot thank Allah”

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ABSTRACT

Attention Deficit Hyperactivity Disorder (ADHD) is one of the most common neurodevelopmental disorders worldwide, affecting an estimated 5-7% of children and adolescents. Despite its prevalence, many children with ADHD go undiagnosed, with approximately 30-50% not receiving a formal diagnosis. This study examines the life experiences of adults who lived with untreated ADHD during childhood, exploring these experiences through their own perspectives.

Participants were recruited via *LinkedIn* using a self-selection sampling method, and data was collected through qualitative approaches. The study was grounded in the Biopsychosocial Model and Bronfenbrenner's Ecological Model. Analysis revealed three key themes: adults with untreated ADHD are acutely aware of their cognitive differences, believe that early intervention could have significantly improved their outcomes, and face an increased risk of substance abuse.

Keywords: Attention-Deficit Hyperactivity disorder, untreated, substance abuse, early intervention, childhood

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Chapter 1

Contextualizing the Study

1.1 Background and Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder marked by a persistent pattern of inattention, hyperactivity, and impulsivity that disrupts functioning and development. While it is commonly diagnosed in childhood, ADHD can persist into adulthood, impacting various life domains, including education, work, and relationships. Individuals with ADHD often struggle with organization, time management, and emotional regulation, which can lead to challenges in both personal and professional environments (National Institute of Mental Health, 2022).

Estimates suggest that between 2% and 16% of the school-age population is affected by ADHD, with a general prevalence rate of about 3% to 5%. The population prevalence for ADHD is estimated as 3.0% – 5.0% (Wittchen, Jacobi, Rehm & Gustavsson et al., 2010). Importantly, this 5% exists due to a lack of knowledge about ADHD; many children who remain undiagnosed are simply regarded as ‘naughty’ or ‘unintelligent’ (Schoeman, Albertyn and de Klerk, 2017). Approximately 60% to 70% of individuals continue to exhibit symptoms into adulthood. Despite its prevalence, ADHD is frequently underdiagnosed, misdiagnosed, or inadequately treated, resulting in symptoms that persist and complicate adult life. Given these statistics, this study aimed to retrospectively explore the "good, bad, and ugly" experiences of adult participants, focusing on how their untreated childhood ADHD impacted them as children and continues to influence their lives as adults.

Untreated childhood ADHD can severely impair academic performance, leading to underachievement and lower educational attainment (Barkley et al., 2008). Socially, these children may struggle to maintain friendships and understand social cues, often resulting in isolation and diminished self-esteem. Furthermore, untreated ADHD is associated with increased rates of anxiety and depression, stemming from difficulties in emotional regulation and coping strategies (Weiss et al., 2018). Early intervention is crucial in addressing academic difficulties, enhancing social skills, and improving emotional regulation strategies.

Recognizing the potential long-term consequences of untreated ADHD highlights the importance of timely diagnosis and effective support to enable individuals to reach their full potential.

Additionally, this study explored the differences in experiences amongst various individuals who have suffered with this disorder during their childhood. It also sought to establish the common understanding of this disorder shared among the participants. Further, this study explored whether participants with ADHD acknowledged their differences and whether they regarded their differences as impediments or were able to cope and function normally. While examining the effects of untreated childhood ADHD on the participants, this study also sought to explore the participants' perspectives and potential justifications regarding what the impact of early intervention may have done.

The literature suggests that there is a relationship between individuals with untreated childhood ADHD and later substance abuse. Hence, this study explored potential reasons for this phenomenon. The study had three key objectives. Firstly, it aimed to understand the long-term effects of untreated childhood ADHD by gathering retrospective accounts from adults who experienced the disorder. This provided insights into how untreated ADHD has impacted their academic, social, and emotional lives. Secondly, the study sought to explore the benefits of early treatment for ADHD, emphasizing how timely intervention can enhance academic performance, social skills, and emotional regulation. Lastly, it examined the relationship between untreated childhood ADHD and substance abuse, investigating how untreated symptoms may lead to increased risk of substance use as individuals attempt to cope with their challenges. Overall, these objectives aimed to highlight the importance of early diagnosis and effective support for children with ADHD. Based on this the following research questions were asked, to explore untreated childhood ADHD's link to substance abuse, to explore the benefits of treating ADHD early and lastly, to understand the lived experiences of individuals with untreated childhood ADHD and how these experiences may relate to substance abuse.

To explore these questions, the study was underpinned by an interpretivist paradigm, and a qualitative methodology. The theoretical frameworks of Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979) and Biopsychosocial Theoretical (Engel, 1977) were used as lenses to analyse and understand the data, a synopsis of which is discussed in this chapter. This study sought to explore retrospectively adult participant experiences of how their untreated childhood ADHD has affected them as children and continue to do so as adults. Five adult participants for the study were drawn using a self-selection sampling method (Makwana, Engineer, Dabhi & Chudasam, 2023) using a survey on *LinkedIn* to obtain volunteers. For the data collection, the participants were required to respond to an online interview and provide a narrative of their experiences.

In this chapter, the background, introduction and purpose of the study is discussed. Further, the rationale, significance of this research, the objectives are described. The literature review summarized in this chapter introduces the tragic prevalence of untreated attention deficit hyperactivity disorder (ADHD) among children and its severe long-term consequences for them as adults is revealed. (Biederman et al., 2008). The theoretical frameworks and the research methodology are also explained

1.2 Purpose of the study

During childhood development, children with ADHD often exhibit a range of behavioural, developmental, social, and educational challenges compared to their peers. As these children grow older, the risks associated with untreated ADHD can lead to more severe problems in adulthood, including various mental health disorders, unemployment, substance abuse, and criminal involvement (Hamed, Kauer & Stevens, 2015).

The purpose of this study was to gain an in-depth understanding of the consequences of untreated childhood ADHD from the perspective of adults who experienced it during their childhood. Additionally, the study aimed to explore whether early intervention could have enhanced their lives and improved their overall quality of life, according to these participants. Another objective of this study was to examine the relationship between untreated childhood ADHD and the subsequent development of substance abuse. The primary goal, however, was to explore the experiences of adults who lived with untreated childhood ADHD, allowing them to reflect on what could have supported and improved their functioning. Exploring this issue from an adult perspective adds a level of maturity and depth to the research.

1.3 Rationale

I grew up in a very conservative and traditional Indian household where my parents believed that bad behaviour can be corrected with punishment. This punishment included grounding, embarrassing you in front of your cousins and friends and sometimes getting a spanking. This approach to discipline often ignored the fact that there may be other reasons for inappropriate behaviour and not just a case of misdemeanour. This lack of understanding is clear in the following personal anecdote.

In my childhood I had a cousin who would just not sit still. We often teased him about having ‘ants in his pants’, but as he grew older the behaviour he displayed intensified. He became more impulsive, rowdy, and displayed a strong inability to follow any rules. Teachers

complained about him and everyone in my family called him 'troublesome' and 'badly behaved'. He was often subjected to different forms of punishment to restrain him. But as we got older, I began to wonder how someone who was often reprimanded and treated like an utter nuisance, just did not stop? In adulthood, he developed various addictions and the cycle of being badly behaved just kept perpetuating itself.

Children displaying this type of behaviour were either flagged as 'troublesome children' or were suspected of having attention deficit hyperactivity disorder. However, due to family and cultural limitations - perhaps ignorance too - many of these young adults were left untreated.

According to Hamed et al. (2015) research has shown that many parents or caregivers do not acknowledge the "troublesome behaviour as a disorder or a serious problem requiring medical intervention and psychotherapy, but rather undesirable behaviour that these children can outgrow." This understanding made me curious to find out more about my cousin's problem and other children who had similar experiences. Research has indicated that only 31.7% of children with ADHD receive medication and behavioural treatment (Hamed et al., 2015).

Given the fact that there is so much awareness and research about this disorder, it is concerning that the percentage of children that get the correct treatment is very low. Based on this, this study sought to explore retrospectively from adults, the types of the lives and experiences they had as children who did not receive adequate and appropriate treatment and the further impact it had as they grew to adulthood.

1.4 Significance of the Study

Extensive research has been conducted on the effects of ADHD and its impact on the lives of those diagnosed (Wittchen, Jacobi, Rehm & Gustavsson et al., 2010; Schoeman, Albertyn and de Klerk, 2017; National Institute of Mental Health, 2022) However, my interest lies in the experiences of untreated childhood ADHD, as recounted by adults. My primary focus was on their experiences whether good, bad, or ugly. Through these shared experiences, we can learn much about how untreated childhood ADHD affects individuals in various facets of their lives. Viewing these experiences from an adult perspective added a new dimension to the research, as these adults articulated their thoughts and experiences in a more mature and insightful manner. Using a few participants provided a variety of responses that highlight different experiences and challenges.

It was very interesting and insightful to explore the thoughts of the adult participants who had lived through their childhood experiences on the benefits of early intervention. When

children are young and diagnosed, the decision to treat and medicate is mainly made by the parents. However, this study gave participants a chance to reflect on what they believed would have been better practices. The study also addressed the contemporary understanding of the participants' diagnosis. It aimed to understand how many of the symptoms are identified by sufferers prior to their diagnosis and how aware they were of their differences in functioning in comparison to someone without ADHD.

Through my own research, I found that there was not much research on the link between untreated childhood ADHD and substance abuse (Loe et al, 2007). Hence, my research aimed to understand this relationship. Therefore, this research adds a significant understanding to the field of ADHD research, by exploring the experiences of untreated childhood ADHD and understanding it through the voices of adults.

Through this research, significant role-players will be able to understand the benefits of early treatment as well as the challenges when intervention, based on the experiences of the participants. Additionally, having a clear understanding of the possible relationship between untreated childhood ADHD and substance abuse can perhaps persuade parents, caregivers and victims to seek early intervention to prevent later use and abuse of substances. Lastly, the purpose of this research was to create an awareness of the plight experienced by the ADHD sufferers. This may assist sufferers feeling less isolated and can educate non-sufferers to better understand this phenomenon.

1.5 Objectives

The objectives of this study were:

1. To explore adults' experiences of untreated childhood ADHD.
2. To explore the benefits of treating ADHD early.
3. To understand the lived experiences of individuals with untreated childhood ADHD and how these experiences may relate to substance abuse

1.5.1 Research Questions

The study was guided by the following research questions:

1. How do adults describe their experiences of untreated childhood ADHD?
2. What are the benefits of treating ADHD early?

3. What is the relationship between your untreated childhood ADHD and the prevalence of substance abuse?

1.6 Review of Literature

Attention deficit hyperactivity disorder (ADHD) is a neurodevelopmental condition that typically manifests during childhood. Children with ADHD display symptoms of inattention, hyperactivity, and impulsivity (Kooij et al., 2010). Numerous studies have shown that these childhood symptoms often persist into adulthood. According to Able et al. (2007); Adler (2007); De Garaaf et al. (2008) and Kessler et al. (2005b), the impact of childhood ADHD has long-term consequences. Individuals with childhood ADHD have demonstrated significant declines in academic and work performance compared to those without this condition. Poor academic achievement and long-term work disability are particularly relevant for adult functioning due to their widespread social, financial, and personal repercussions (Biederman et al., 2008). As adults, they are not only predisposed to other mental health conditions, like drug and alcohol abuse, but several other impacts. One of the major consequences of ADHD not being diagnosed is a lack of treatment. According to Shoeman et al. (2017) untreated ADHD can debilitate a person in many ways, including psychologically, financially, academically, and socially.

A range of beliefs about the causes of child behaviour lead parents not to seek assessment for ADHD. These include dietary factors, limitations of educational setting, not perceiving child behaviour as a burden, and having a higher threshold for behavioural tolerance before seeking assessment. The motivation and ability to seek medical intervention may also be affected by psychosocial stressors like financial difficulties, having other children, and traditional beliefs of how problematic behaviour should be addressed.

Numerous studies have indicated that ADHD is a source of stress with some people experiencing feelings of loneliness, isolation, low self-esteem, and struggle to get along with people (Shoeman et al., 2017). According to Shattel, Barlett and Rowe (2007), despite struggles related to ADHD symptoms, receiving the diagnoses does not always reduce stress for an individual. Some ADHD sufferers have indicated that there has been stigma attached to being diagnosed, which in turn causes many to not divulge their medical diagnosis.

According to research by Shoeman et al. (2017) adolescents with substance abuse disorder have a higher risk for having ADHD. The risk of substance abuse disorder is twice as high amongst people with ADHD and four times as high amongst those with ADHD.

Research has shown opinions and misguided information from irrelevant sources can influence whether people receive a diagnosis and the subsequent treatment they need. According to Syed and Hoosen (2009), some parents have indicated that they believe ADHD diagnosis to be a money-making system for specialists.

The results of a study by Chang et al., (n/a) concluded that hyperactivity and impulsive symptoms of ADHD predict early onset-tobacco use, and that children displaying these symptoms are predisposed to various kinds of substance abuse and various chronic illnesses.

From all the scholars and research mentioned above, there is clear evidence that untreated childhood ADHD has significant impacts into adulthood. My intention is to explore the relationship further, with specific focus on the relationship between untreated ADHD and the prevalence of substance abuse in adulthood.

1.7 Theoretical framework

This study explored the effects of undetected and untreated childhood ADHD on adulthood. It was plausible to examine theoretical frameworks that suggested a systems approach, where deficits within the system produced corresponding consequences or impacts on other parts. Two theoretical frameworks were considered relevant for this study: Bronfenbrenner's Ecological Systems Theory (Burns, Warmbold-Brann, & Zaslofsky, 2015) and the Biopsychosocial Theoretical framework (Engel, 1977).

1.7.1 Bronfenbrenner's Ecological Systems Theory.

The Ecological Systems Theory provided a comprehensive framework for comprehending human development in the context of the various environmental systems. This framework is made up of five interconnected tiers, namely, the microsystem, mesosystem, exosystem, macrosystem and chronosystem (Darling, 2007).

Microsystem: this system encompasses the person's immediate surroundings, including family, neighbourhood, and social circles. These factors have a direct, immediate effect on how an individual develops. In the context of ADHD, the microsystem plays a pivotal role in understanding and treating the condition, whether in childhood or adulthood. For example, decisions about whether to administer treatment, or whether behavioural issues are perceived as bad manners, or an underlying medical condition, are significantly impacted by the microsystem. Microsystems shape the way in which we respond to certain phenomena. Hence, the microsystem would have contributed to the decision of whether ADHD should have been treated and the support received by the suffering child.

Mesosystem. This system focuses on the linkages between the various microsystems that a person is a part of. Relationships such as those between the individual and the parents, or family and friends or between parents and the school they attend significantly impact an individual's growth and development. Negative treatment given to child diagnosed with ADHD may affect the emotional well-being and child's confidence, leading to long lasting effects. Similarly, the relationship between a child and the teacher is crucial. Teachers who are unknowledgeable or unequipped to deal with children diagnosed with ADHD can significantly impact child's academic progress and relationship in relation with classmates.

Exosystem: This system includes external factors that indirectly influence a person's development. These factors are not part of the individual's daily life but still affect their growth. Societal and cultural norms, for example, play an instrumental role in how people with ADHD are perceived and treated. Cultural beliefs may oppose medical intervention or deny the existence of ADHD altogether. Society and culture shape our thoughts and reactions and dictates the way we think and react. For example, society may not accept that a child with ADHD has a medical problem but may attribute his impulsive behaviour to just bad manners. Therefore, the willingness to get actively involved in trying to assist such children may not happen.

Macrosystem: According to Bronfenbrenner (1986), people do not exist in isolation but are a part of a bigger community. Everyone is interdependent and interconnected. Various systems need to work in synergy to produce a harmonious living environment. One system cannot exist independently of the other. According to Bronfenbrenner (1986), the sum of its parts is greater than the whole. Likewise, children do not develop in vacuums, but are shaped by a range of interacting proximal, biological, and environmental factors, with family processes being fundamental to their growth (Bronfenbrenner, 1986; Bronfenbrenner & Ceci, 1994). The family environment significantly impacts development, manifestation, and outcome of ADHD (Johnston & Mash, 2001; Livingstone et al., 2016). Family interactions can either support a child with ADHD or exacerbate the problems they face.

Chronosystem

Understanding how family processes work is crucial. Although ADHD has a genetic basis, the way it manifests and is addressed or treated is heavily influenced by the individual's interactions with their environment, particularly their family. People's perceptions and knowledge about ADHD can significantly impact whether children receive appropriate

medical interventions. Some children may benefit from timely and effective treatment, while others may miss out due to ignorance or misconceptions. Hence, understanding family processes and how they interact can provide a deeper understanding of the topic.

1.7.2 Engel's Biopsychosocial Theoretical Framework.

The second framework employed in this study was the Engel's Biopsychosocial theoretical framework (1977), which focuses on the holistic development of an individual. This model has three domains that contribute and affect development: biological, psychological and social.

Biological factors: These include genetic predispositions, neurochemical imbalances, and physiological functioning that affect health (Engel,1977). With reference to this study, some participants may be predisposed to ADHD or may have inherited genetic imbalances that contribute to varied levels of serotonin and dopamine. Understanding these factors will be useful in determining their contribution to a person's holistic development.

Psychological factors: These consist of cognitive, emotional and behavioural aspects. Stress, personality traits, coping mechanisms, and mental health status are significant factors. Parents' or caregivers' psychological understanding of ADHD, including their emotional responses to the diagnosis, plays a major role. If they view the condition because of personal failure, poor parenting, or simply "bad behaviour," they may feel guilt or blame, potentially preventing them from seeking professional help for their child. Additionally, some may feel overwhelmed or fear judgment, further delaying intervention (Engel,1977).

Social factors: Social and environmental influences, such as family dynamics, cultural norms, and socioeconomic status, and access to health care, all have an impact on health (Engel,1977). For example, with reference to this research, parents may opt not to seek the necessary treatment as it may be too expensive, or parents may lack the necessary social support to address this issue alone.

All three factors—biological, psychological, and social—work together to provide a holistic understanding of an individual's development and management. This theoretical framework is particularly valuable because it highlights the key elements that shape a person's growth and experiences. By applying this model to each participant's situation, we gain a comprehensive view of the underlying factors influencing a person with ADHD, allowing for a more complete understanding of their condition and its contributing influences.

The above theoretical frameworks will be discussed in greater detail in Chapter 3.

1.8 Location of the Study

The study was conducted in Durban, a city in the province of KwaZulu-Natal, South Africa. Participants were purposively drawn from various areas within KwaZulu-Natal, due to ease of access, and for the purposes of ensuring a diverse representation in terms of socio-economic and cultural backgrounds. Five male and female participants, whose ages ranged from 18 to 44 years, were interviewed for this study. The participants were recruited via LinkedIn, an online platform, with the specific parameters that they had experienced ADHD symptoms in childhood, which were either treated or left untreated. I used LinkedIn to recruit participants due to the sensitivity of the research and the amount of vulnerability it required. LinkedIn offered a broader reach and efficiently connected me with willing participants.

1.9 Research Methodology

Research methodology: This refers to the structured process used to conduct research. It encompasses the techniques, procedures, and tools researchers use to collect, analyse, and interpret data. The aim is to gather reliable and valid information to answer research questions, establish facts, and draw new conclusions (Creswell & Creswell, 2018). A qualitative methodology was chosen as it allowed the researcher to explore the subjective perspectives of the participants in a detailed and nuanced way, capturing their experiences.

Research paradigm and Approach: The interpretivist paradigm was used as the framework. Ontologically, reality is regarded as contextual and related to the subjective experiences of individuals. This means that the researcher believed that the situation explored has various truths, and that those realities can be explored. Meaning was made through human interaction between the researcher and the research subjects, in this case the adult participants who described their “truths” about ADHD as they had experienced it (Chalmers, Manley & Wasserman, 2005).

The epistemology of interpretivism asserts that knowledge can therefore be understood by exploring the meanings and experiences that the participants bring to the research context. Hence, the naturalistic methodology gains data from interviews, discourses, and reflective interaction (Carr & Kemmis, 1986). The interpretivist paradigm is often used in conjunction with qualitative research as it aligns well with the aims and methods of qualitative inquiry. The interpretivist paradigm seeks to understand how individuals interpret and make sense of their experiences. Instruments like interviews, observations, and interpretation of texts all focus on the individual’s subjective interpretation of events (Creswell & Creswell, 2018).

Interpretivists regard society as a construct with continuously constructing meanings. Observing social interactions allow researchers to understand different ideas and beliefs of people in their context. Hence this paradigm was suitable for this research as it sought to explore the lived experiences (the multiple truths) of the participants regarding their understanding of how their childhood ADHD has impacted them, through a dialogical process of interviews and participant narratives.

According to Dedeaux (2018) the interpretivist paradigm has many benefits:

1. Understanding subjective experiences: the interpretivist paradigm enables researchers to comprehend and evaluate the subjective social and cultural experiences of people. Understanding subjective experiences through the interpretivist paradigm allows researchers to evaluate the social and cultural experiences of individuals. This approach is particularly useful for examining complex social phenomena. In the context of ADHD, understanding the experiences of those diagnosed can clarify why treatment was not pursued as well as the impact of this on the participant.
2. Context: Interpretivist emphasizes the importance of context on social behaviour. This helps identify and analyse cultural norms, social structure, and historical patterns (Dedeaux, 2018), which are crucial for explaining the impact of untreated ADHD as well as uncovering the reasons behind certain beliefs and perceptions.

The central tenet of the interpretivist paradigm is to learn about the subjective experiences of the people in the world (Guba & Lincoln, 1989). This approach tries understanding things from the lens of the subjects we are researching. In this study, every effort was made to try to understand the viewpoint of the subject being observed. Emphasis was placed on understanding the individual and their interpretation of the world around them. I think this was the most appropriate paradigm as it sought to understand the subjective experience of each individual suffering with ADHD. This gave the study a broader insight of the diverse experiences of different people suffering from ADHD.

The understanding of a subjectivist epistemology means that the researcher through analysis of the data makes their own meaning. The data for this study was acquired through their interaction of this researcher and my participants (Punch, 2005). There is an assumption that the researcher and their participants were engaged in interactive processes in which the data was analyzed.

I chose to use the interpretivist paradigm because it enabled me to gain further depth through seeking experiences and perceptions of a particular social context. The main reason I selected this paradigm was that my research topic required qualitative data which can be gathered from conversations, questionnaires, and interaction. I needed to understand the experiences of those participants who suffered with ADHD from childhood, and this could only be done if the participants were given a chance to explain, explore and describe how they felt in the manner they best know how. Each of my participants' subjective experiences added value to my research – aligning with the characteristics of the interpretivist paradigm - allowing me an understanding of the subjective experience of each individual and how they made meaning of the world in response to my research question. Each person's experience and behaviour were explored based on their own social construct.

The research approach that I used in relation to my interpretivist paradigm was the qualitative research approach. Qualitative research enables the researcher to make sense of reality and to describe and explain the social world (Morris & Field, 1996). Qualitative research focuses on gaining as much data as possible by allowing study participants to express themselves more freely. In my research, the methods of extracting data were semi- structured interviews, conversation, and questionnaires. This approach provided a richer understanding of social phenomena than quantitative research methods, which often rely on statistical analysis.

A self-selection sampling method was employed in this study (Makwana, Engineer, Dabhi, Chudasam, 2023). Self-selection is a volunteer sampling method. This approach relied solely on participants' willingness to participate in the research. Due to the nature of this study and the sensitivity surrounding the shared experiences of the participants, this was the only sampling method that was suitable. I shared a *LinkedIn* advert requesting volunteers who meet the requirements of this study. This is how the sample was formed.

1.10 Overview of Dissertation

Chapter	Topic
Chapter 1	This chapter introduced the study, the context and background, as well the purpose, rationale and objectives of the study. It also provided the research questions pertaining to this study. It described the phenomenon of the study, that is, attention deficit hyperactivity disorder (ADHD), which is a neurobehavioural disorder mostly affecting children and adolescents and is

	<p>characterized by inattentiveness, impulsiveness, and hyperactivity (Stevens et al.,1995, p.761). ADHD is known to impact children negatively. Due to various impediments to assessment, ADHD is under-diagnosed, misdiagnosed, and not inadequately treated, which has long term consequences into adulthood. posing as a further challenge. This chapter presented the background and purpose of the study – that is – the researcher’s interest to explore adult participant’s experiences retrospectively of the different ways in which their untreated ADHD had affected them as children and continued to do so as adults.</p>
Chapter 2	<p>Chapter 2 consists of a literature review and relevant literature about the topic. Numerous studies have shown that childhood ADHD has long-term consequences; namely, significant declines in academic and long-term work disability which are particularly relevant for adult functioning due to their widespread social, financial, and personal repercussions (Biederman et al., 2008). Untreated childhood ADHD, predisposes adults to mental health conditions, drug and alcohol abuse, including psychological, financial, academic and social risks.</p>
Chapter 3	<p>This chapter focuses on two theoretical frameworks. Engel's Biopsychosocial Model, which offers a holistic approach by encompassing the biological, psychological, and social aspects that contribute to the development and management of ADHD. The second framework is Bronfenbrenner's Ecological Model which also provides an in-depth understanding of the family and extended environmental dynamics that influence the development and management of ADHD.</p>
Chapter 4	<p>Chapter four describes the research design and methodology of the study, which employs a qualitative, phenomenological approach to explore the experiences of adults with untreated childhood ADHD. Situated within an interpretivist paradigm, it</p>

	emphasizes understanding participants' subjective meanings. A purposefully selected sample enriches the data, while semi-structured interviews facilitate in-depth exploration of key topics. This framework establishes the basis for analyzing findings and discussing their implications.
Chapter 5	This chapter focuses on the analysis of the data collected from participants. The findings are examined in relation to the theoretical frameworks underpinning this study. The data is presented and analyzed, highlighting key insights and themes that emerged from the participants' experiences. Additionally, this chapter includes a discussion about the findings, exploring their implications and relevance to the existing literature on untreated childhood ADHD.
Chapter 6	The final chapter of the study contains a concluding discussion on the findings. These findings reflect the nature and purpose of the study, which was to understand the good, bad and ugly experiences of untreated childhood ADHD through the voices of the adult participants.

1.11 Conclusion

In this chapter, the background and introduction to study, and its purpose have been discussed. Further, the rationale, significance of this research, the objectives have been described. The literature review revealed the startling prevalence of attention deficit hyperactivity disorder (ADHD) as a neurobehavioural disorder mostly affecting children and adolescents, which if untreated has severe long-term consequences for them as adults, debilitating against their academic and work ability and producing negative mental, social, financial, and personal consequences (Biederman et al., 2008). Underpinned by an interpretivist paradigm, and a qualitative methodology, as well Bronfenbrenner's Ecological Systems Theory (Bronfenbrenner, 1979) and Biopsychosocial Theoretical (Engel, 1977) framework, and a qualitative research methodology, this study sought to explore retrospectively, the adult participants' experiences of how their untreated childhood ADHD has affected them as children and continue to do so as adults.

In the next chapter, the research literature is reviewed.

Chapter 2: **Literature Review**

2.1 Introduction

Childhood Attention-Deficit/Hyperactivity Disorder (ADHD) is a neurodevelopmental disorder characterized by symptoms of inattention, hyperactivity, and impulsivity. It is one of the most common psychiatric disorders in children, with a prevalence rate of approximately 5-10% worldwide (Polanczyk et al., 2007). Many children with ADHD remain underdiagnosed or inadequately treated. A study in JAMA Psychiatry found that nearly 60% of children with ADHD in the U.S., particularly in minority populations, are undiagnosed, affecting their long-term development (Faraone et al., 2015)

It is crucial to understand the long-term repercussions of untreated ADHD in children. These children experience difficulties and struggles that may last far into adulthood. Untreated childhood ADHD has been linked to several adverse consequences, such as difficulty in school, strained relationships with friends and family, emotional distress, a higher chance of substance addiction, and a worse quality of life overall (Barkley et al., 2008; Weiss et al., 2018). Therefore, studying the viewpoints and experiences of adults who had untreated ADHD as children offers important insights on the long-term effects of this disorder and the necessity of early care.

The purpose of this literature review is to examine research about the experiences of adults who had untreated ADHD as children shedding light on the good, bad and ugly aspects of living with this condition into adulthood, as well as provide a deeper understanding of long-term repercussions of untreated childhood ADHD, and emphasize the significance of early intervention and comprehensive support networks.

2.2 Overview of Childhood ADHD:

Attention Deficit Hyperactivity disorder (ADHD) is a neurodevelopmental disorder characterized by persistent patterns of inattention, hyperactivity, and impulsivity that typically manifests during childhood and continues into adulthood. These symptoms significantly interfere with a person's daily functioning and can affect various aspects of their lives (American Psychiatric Association, 2013).

The symptoms of ADHD can vary but generally fall into two main categories: inattention and hyperactivity/impulsivity. Inattention symptoms include difficulty sustaining attention, being easily distracted, forgetfulness, and disorganization. Hyperactivity/impulsivity symptoms include excessive fidgeting or squirming, difficulty sitting still, talking excessively, and impulsive behaviours like interrupting others.

Untreated childhood ADHD can negatively impact many facets of a child's life. Children with untreated ADHD frequently struggle with sustained attention, organisation, time management, and impulsivity in their academic performance, which results in academic underachievement and reduced educational attainment (Barkley et al., 2008).

Socially, untreated childhood ADHD can lead to strained relationships with family members and peers. Children with ADHD may have trouble keeping friends, understanding social cues, and resolving conflicts constructively, resulting in social isolation, low self-esteem, and rejection-related sentiments (Barkley et al., 2008). Untreated childhood ADHD is also associated with increased emotional difficulties. Individuals with untreated ADHD often experience higher rates of anxiety and depression, as they may struggle with emotional regulation, frustration tolerance, and coping strategies. These emotional impairments can further impact their overall quality of life (Weiss et al., 2018).

In summary, childhood ADHD is a prevalent neurodevelopmental disorder that can have significant lifelong consequences if left untreated. Early intervention is crucial to address academic difficulties, foster social skills, and provide effective strategies for emotional regulation. Understanding the potential negative outcomes of untreated childhood ADHD emphasizes the importance of appropriate diagnosis and intervention to support affected individuals in achieving their full potential.

2.3 Studies on the long-term effects of untreated childhood ADHD

Numerous studies have investigated the long-term effects of untreated childhood ADHD, providing valuable insights into the impact of this condition on individuals' lives.

Barbarese et al. (2013) conducted a population-based study and found that children with ADHD who did not receive treatment had significantly increased rates of psychiatric comorbidity, school dropout, early pregnancy, and involvement in the criminal justice system.

Biederman et al. (2010) conducted a 33-year follow-up study and found that adults with untreated ADHD had significantly higher rates of comorbid psychiatric disorders, including

anxiety and mood disorders, compared to individuals without ADHD. They also experienced more problems with substance abuse and had lower educational and occupational achievements. Mannuzza et al. (2008) followed a large sample of individuals with ADHD into adulthood and found that untreated ADHD was associated with a higher risk of delinquency, criminal behaviour, and antisocial personality disorder. They also reported lower socio-economic status, impaired driving history, and increased risk of injuries.

Faraone et al. (2015) conducted a meta-analysis of long-term outcomes in individuals with untreated ADHD. They found that adults with untreated ADHD had higher rates of unemployment or underemployment, increased marital conflicts, and lower overall quality of life compared to those who received appropriate treatment. Molina et al. (2009) examined the long-term outcomes of individuals with childhood ADHD, comparing those who received treatment with medication versus those who did not. The study found that untreated ADHD was associated with a range of negative outcomes, including higher rates of academic failure, substance use disorders, and mental health problems.

These studies collectively highlight the substantial negative impact of untreated childhood ADHD on long-term outcomes. They emphasise the importance of appropriate intervention and treatment to mitigate the risk of adverse consequences across various domains of functioning.

2.4 The impact of Untreated ADHD on academic performance

The impact of untreated ADHD on academic performance is significant, as it can affect attention, organization, and time management skills of an individual. Several studies have explored this relationship and highlighted the challenges faced by individuals with untreated ADHD in educational settings.

A meta-analysis of studies on the connection between ADHD and academic functioning was carried out by Barkley et al. in 2008. In comparison to those without ADHD, they discovered that untreated ADHD is linked to worse academic performance, worse grades, and increased rates of grade repetition and drop out. In a study on the effects of ADHD on academic performance, DuPaul et al. (2016), discovered that untreated ADHD is specifically linked to issues with attention, executive functioning, and working memory, which in turn affect tasks like listening, following directions, and finishing assignments. Langberg et al. (2011)

studying the impact of untreated ADHD symptoms on academic outcomes and executive functioning in a sample of college students, found that higher levels of ADHD symptoms were associated with lower overall grade point average GPA, higher rates of academic probation and course withdrawals, and increased difficulty with organisation and time management.

These studies consistently demonstrate that untreated ADHD negatively impacts academic performance, with difficulties in attention, organisation, and time management being key contributing factors. These challenges can lead to long-term academic underachievement and lower educational attainment.

2.5 Impact of Untreated Childhood ADHD on vocational outcomes

Diemer et al. (2012) investigated the vocational outcomes of individuals with untreated ADHD in a sample of adults. They found that untreated ADHD was associated with lower vocational achievement, including less skilled employment, lower job stability, and lower earnings. A study by Isquith et al. (2013) on the impact of untreated ADHD on occupational functioning in adults, also found that individuals with untreated ADHD reported more occupational impairments, job instability, and lower overall occupational satisfaction compared to individuals with ADHD or those who receive treatment.

2.6 The impact of Untreated Childhood ADHD on social relationships

The social consequences of untreated ADHD can be significant, leading to difficulties in forming and maintaining interpersonal relationships. Research suggests that individuals with untreated ADHD may encounter challenges in various aspects of social interactions.

2.6.1 Peer relationships:

This may be impacted by untreated ADHD because people may have trouble interacting with others and acting appropriately. They might interrupt others, have trouble waiting their turn, or have impulsive outbursts, which might cause them to be rejected or excluded by their peers (Barkley, 2006).

2.6.2 Friendship quality:

People with untreated ADHD may find it challenging to make and keep intimate friendships. Because of their tendency to be impulsive and inattentive, ADHD patients may experience emotions of loneliness and isolation due to misunderstandings, arguments, and inconsistent friendship maintenance (Humphrey & Mullins, 2002).

2.6.3 Romantic relationships:

Untreated ADHD may also affect romantic relationships. Difficulties in attention, impulsivity, and emotional regulation can contribute to communication problems, inconsistent behaviour, and relationship conflicts (Barkley & Fletcher, 2010). This can result in higher rates of relationship instability and dissatisfaction.

2.6.4 Family relationships:

Untreated ADHD can strain family relationships. Parents may find it challenging to maintain their child's behaviour, leading to increased stress and conflict within the family (Biederman et al., 1996). Siblings may also experience difficulty in relating to and understanding their sibling with untreated ADHD, potentially leading to strained relationships.

2.6.5 Occupational settings:

Social difficulties associated with untreated ADHD can also manifest in the workplace.

Challenges with organisation, time management, and impulse control may impact working relationships, teamwork, and adherence to workplace rules (Barkley, 2006).

Overall, untreated ADHD can have a substantial impact on social relationships across various settings. Difficulties in impulse control, attention, and social skills can hinder the formation and maintenance of interpersonal relationships, potentially leading to social isolation and emotional difficulties.

2.7 The impact of untreated Childhood ADHD on long-term vocational outcomes

Studies have explored the relationship between untreated ADHD and various vocational outcomes, shedding light on the potential challenges faced by individuals with untreated ADHD in their careers.

Loe and Feldman (2007) examined educational and occupational outcomes in individuals diagnosed with ADHD, finding that untreated ADHD was significantly linked to lower educational attainment, reduced college enrolment rates, and decreased occupational functioning in adulthood. A longitudinal study by Kuriyan et al. (2013) investigated how childhood ADHD affected occupational outcomes in adulthood., concurred that individuals who had untreated ADHD had lower occupational status, lower income, and a greater likelihood of being employed in unskilled or semi-skilled occupations compared to those without ADHD. Barkley et al. (2006) also observed that untreated ADHD increased the risk of job instability, diminished work performance, and lower occupational achievement when compared to individuals without ADHD. Babinski et al. (2018) explored the long-term

occupational outcomes of untreated ADHD and found that such individuals had a higher probability of unemployment, underemployment, and job dissatisfaction in adulthood. These individuals also reported difficulties with workplace functioning and productivity. Durell et al. (2019), examining vocational outcomes in adults with persistent ADHD symptoms, found that those with untreated symptoms experienced lower income levels, higher rates of unemployment, and decreased work satisfaction in comparison to individuals without ADHD or those with treated ADHD.

Collectively these studies suggest that untreated childhood ADHD can have a negative impact on long-term vocational outcomes and career success. The challenges associated with executive functioning, attention, and impulse control in individuals with untreated ADHD may contribute to difficulties in job performance, career progression, and occupational stability.

Further research around untreated childhood ADHD is needed to enhance interventions and support systems for individuals with ADHD. The existing studies have shed light on the negative consequences of untreated ADHD, but there are still gaps in our understanding and knowledge. More research is needed to understand the long-term outcomes of individuals with untreated childhood ADHD across various domains, such as mental health, social relationships, educational attainment, and occupational success. This will assist with the development of interventions and support systems to address these specific areas of concern.

2.8 Factors influencing treatment-seeking behaviours:

2.8.1 Barriers and facilities

Research should investigate the barriers and facilities to seeking treatment for childhood ADHD and the reasons why some individuals go untreated. Identifying these factors will help in developing targeted interventions and support systems to increase treatment-seeking behaviours and reduce the number of individuals with untreated ADHD.

2.8.2 Long-term effectiveness of interventions:

More research is needed to evaluate the long-term effectiveness of various interventions for childhood ADHD. This includes examining the benefits of medication, behavioural therapies, and treatments in reducing symptoms and improving outcomes over periods of time.

2.8.3 Support systems and accommodations:

Further research is necessary to explore the impact of support systems, such as accommodations in educational and occupational settings, on individuals with ADHD. Understanding the effectiveness of these support systems and identifying best practices will help in optimizing the resources and assistance available for individuals with untreated childhood ADHD.

By conducting further research in these areas, we can enhance our understanding of untreated childhood ADHD and develop evidence-based interventions, support systems, and accommodations that can improve the outcomes and overall well-being of individuals with ADHD.

This research can also help reduce the stigma associated with ADHD and increase awareness about the importance of early intervention and comprehensive support for affected individuals.

2.9 Commonly addressed factors that contribute to the underdiagnosis or misdiagnosis of ADHD

The following factors are listed below:

2.9.1 Complexity of symptoms:

ADHD symptoms can present in various ways and overlap with other conditions, making it challenging to differentiate and accurately diagnose ADHD (Wilens, Biederman, & Spencer, 2002). This complexity can lead to misdiagnosis or under recognition of the condition.

2.9.2 Variability in symptoms:

ADHD symptoms can manifest in various ways, and individuals may present with different combinations of inattention, hyperactivity, and impulsivity. This variability makes it challenging to recognise a consistent pattern, leading to potential underdiagnoses (Wilens, Biederman, & Spencer, 2002).

2.9.3 Co-occurring conditions:

ADHD often coexist with other mental health conditions such as anxiety, depression, learning disabilities, or conduct disorders (Wilens, Biederman, & Spencer, 2002). The presence of overlapping symptoms can complicate the diagnosis process, increasing the likelihood of misdiagnosis or overlooking ADHD.

2.9.4 Developmental changes:

ADHD symptoms can change with development. What is noticeable in childhood may evolve or present differently in adolescence and adulthood. The developmental variability can lead to underdiagnosis, especially if symptoms are not appropriately reassessed over time.

2.9.5 Gender differences:

ADHD symptoms may present differently in boys and girls. Boys with ADHD often display more overt hyperactivity, while girls may exhibit more internalised symptoms, such as inattention. As a result, girls may be underdiagnosed or diagnosed later due to these differences in symptom expression (Wilens, Biederman, & Spencer, 2002).

2.9.6 Cultural and contextual factors:

Cultural differences and contextual factors can influence how ADHD symptoms are perceived and reported. Norms for behaviour and expectations for attention and activity levels may vary across cultures, leading to potential misinterpretation of symptoms (Wilens, Biederman, & Spencer, 2002).

2.9.7 Personal and environmental factors:

According to Wilens, Biederman, and Spencer (2002) environmental factors, such as chaotic home environment, lack of structure, or inconsistent parenting, can contribute to ADHD-like behaviours. Additionally, individual personality traits or temperament may be mistaken for ADHD symptoms, leading to misdiagnosis.

2.9.8 Lack of awareness and knowledge:

Many individuals, including parents, teacher, and healthcare professionals, may have limited understanding or awareness of the full range of ADHD symptoms. This lack of knowledge can contribute to underdiagnosis or misdiagnosis.

2.9.10 Limited Recognition of ADHD symptoms:

Without adequate awareness, healthcare professionals, educators, and even individuals themselves may not fully recognise the diverse ways in which ADHD symptoms can manifest. According to Sayal and Hornsey (2019), the lack of recognition can lead to underdiagnosis as symptoms may be dismissed or attributed to other causes.

2.9.11 Stigma and Stereotype:

Misconceptions and stereotypes about ADHD may contribute to biases in diagnosis. If health care professionals or educators hold inaccurate beliefs about ADHD, they may be more likely to overlook or dismiss symptoms, leading to underdiagnosis.

2.9.12 Lack of training and education:

Inadequate training on ADHD in medical and educational settings can result in healthcare professionals and educators not being well-versed in the diagnostic criteria and nuances of ADHD. According to Sayal and Hornsey (2019), this lack of knowledge can contribute to misdiagnosis or overlooking the disorder.

2.9.13 Inconsistent symptom and presentation:

ADHD symptoms may present inconsistently across different settings, making it challenging for healthcare professionals or educators to recognise a consistent pattern. This lack of consistency can contribute to underdiagnosis (Sayal & Hornsey, 2019).

2.9.14 Subjectivity in Diagnosis:

The diagnosis of ADHD relies on clinical judgement, observation, and subjective assessment tools. The interpretation and application of diagnostic criteria can vary among healthcare professionals, potentially leading to different diagnoses or underdiagnosis.

2.10 Debates about the scientific diagnosis of ADHD

The debate about ADHD being over diagnosed revolves around concerns that the diagnostic criteria for Attention- Deficit/Hyperactivity Disorder (ADHD) are applied too broadly, leading to a perceived increase in the number of individuals diagnosed with the condition (Singh & Kelleher, 2010). Critics argue that this overdiagnosis is driven, in part, by the medicalization of behaviours that may fall within the range of normal variations in human behaviour.

The key points of this debate are:

2.10.1 Normal variations in behaviour:

Critics contend that some behaviours associated with ADHD, such as inattention, hyperactivity, and impulsivity, exist along a spectrum of normal variations in human behaviour. They argue that what might be typical behaviour in one context or developmental stage is pathologized when subjected to the rigid diagnostic criteria of ADHD (Singh & Kelleher, 2010).

2.10.2 Medicalization of Behaviour:

The term ‘medicalisation’ refers to the process by which normal aspects of life, including variations in behaviour, are defined and treated as medical conditions. Critics argue that the diagnostic criteria for ADHD may medicalise behaviours that could be considered within the normal range of human diversity, especially in children who may naturally exhibit high energy levels or have difficulty focusing at certain ages (Singh & Kelleher, 2010).

2.10.3 Concerns about unnecessary medication:

A major concern raised by critics is that overdiagnosis of ADHD may result in unnecessary treatment with medications. They argue that prescribing stimulant medications, such as methylphenidate or amphetamines, to individuals with behaviours that may be developmentally appropriate or contextually influenced can have potential risks without clear benefits.

2.10.4 Impact of stigmatization:

Overdiagnosis and the subsequent medicalisation of behaviours may contribute to the stigmatization of individuals labelled with ADHD (Singh & Kelleher, 2010). Critics argue that applying a diagnostic label to individuals who may not genuinely have a disorder could lead to unwanted negative perceptions and assumptions.

2.10.5 Social and educational factors:

Critics also point to social and educational factors that may contribute to the overdiagnosis of ADHD, such as increased academic pressures, expectations for conformity to certain behavioural norms, and the desire for quick solutions to behavioural challenges (Frances & Batstra, 2013).

The debate surrounding the subjective nature of ADHD diagnosis revolves around concerns about the reliance on subjective observations and reports, with critics contending that this approach undermines the scientific basis of the diagnosis.

The central points in this debate are as follows:

Subjectivity in diagnosis: Critics argue that the diagnosis of ADHD heavily depends on subjective information provided by individuals, parents, teachers, and other observers.

Symptoms such as inattention, hyperactivity, and impulsivity are often reported subjectively, without clear and objective markers (Timimi, 2005).

Reliability and validity concerns: Because ADHD diagnosis relies on subjective assessments, there are concerns about the reliability and validity of the diagnostic process (Timimi, 2005).

The consistency and accuracy of identifying ADHD symptoms across different contexts and individuals may vary, raising questions about the overall reliability of the diagnosis.

Lack of objective biomarkers: One of the primary criticisms is the absence of clear, objective biomarkers for ADHD (Singh & Kelleher, 2010). Unlike other medical conditions that can be diagnosed using measurable physical signs or laboratory tests, ADHD lacks definitive biological markers, leading to challenges in establishing the condition on a firm biological basis.

Potential for overdiagnosis or misdiagnosis: The subjective nature of ADHD diagnosis raises concerns about the potential for overdiagnosis or misdiagnosis (Singh & Kelleher, 2010). Critics argue that without objective measures, there is a risk of pathologizing normal variations in behaviour or misattributing symptoms to ADHD when other factors may be at play.

Influence of social and cultural factors: Critics suggest that social and cultural factors can impact how ADHD symptoms are perceived and reported. Norms for behaviour, expectations, and cultural attitudes may influence the interpretation of observed behaviours, further contributing to subjectivity in the diagnostic process (Singh & Kelleher, 2010).

Implications for treatment and stigmatization: The reliance on subjective assessments has implications for treatment decision (Timimi, 2005). Critics argue that a lack of objective markers may lead to the overemphasis on medication as a primary intervention, potentially exposing individuals to unnecessary risks. Additionally, the subjective nature of diagnosis may contribute to the stigmatization of individuals labelled with ADHD (Timimi, 2005). According to Cortese et al. (2012) the biomarker approach for diagnosing ADHD is more accurate than relying solely on behavioural assessment.

The above debate discusses the potential of using biomarkers, such as genetic, neuroimaging, and biochemical markers, as objective measures to aid in the diagnosis of ADHD.

Biomarkers have the advantage of providing measurable and quantifiable data, which could potentially improve the accuracy of diagnosis.

Proponents of the biomarker approach argue that these objective measures can help differentiate individuals with ADHD from those without the disorder, leading to a more precise diagnosis. For example, neuroimaging techniques can identify specific brain abnormalities associated with ADHD, such as reduced prefrontal cortical activity (Cortese et al., 2012).

However, there are several challenges and limitations to consider in the use of biomarkers for the diagnosis of ADHD. The current knowledge of biomarkers is limited and not yet ready for clinical application (Cortese et al., 2012). The field is in the early stages of understanding the complex interplay between genetic, environmental, and neural factors in ADHD. Factors like age, comorbidities, or medication status can influence biomarker characteristics which is why we require further studies to validate potential biomarkers.

According to the American Psychiatric Association. (2013) the use of questionnaires and rating scales alone is insufficient to diagnose ADHD; an integrated approach is necessary. The above debate acknowledges that questionnaires and rating scales play a crucial role in the assessment of ADHD. They provide valuable information about an individual's behavioural symptoms, observed both by the individual and those around them, such as parents and teachers. By incorporating different perspectives, these tools contribute to a more comprehensive understanding of an individual's functioning. The DSM-5 emphasizes the need for integrating information from multiple sources, such as clinical interviews, medical history, and direct observation, to ensure a comprehensive evaluation.

According to Cortese et al. (2012) proponents of diagnosing ADHD in adulthood argue that ADHD symptoms can manifest differently in adults compared to children. While hyperactivity may decrease with age, adults with ADHD may struggle with inattention, impulsivity, and executive functioning difficulties Cortese et al. (2012). Additionally, many adults may have been undiagnosed or misdiagnosed during childhood, leading to delayed recognition of ADHD symptoms.

A study published Dr. Luis Augusto Rohde and his colleagues, published in the *American Journal of Psychiatry* in 2010 supports adult ADHD diagnosis. The study found that adults with ADHD exhibited lower educational attainment, higher rates of divorce, and higher rates of psychiatric comorbidity compared to adults without ADHD. The researcher concluded that identifying and treating ADHD in adults could improve their overall functioning and quality of life. On the other hand, critics argue that ADHD is fundamentally a childhood disorder and that symptoms observed in adults may be attributable to other underlying conditions, such as anxiety or depression (Rohde et al., 2010). They suggest that retroactively diagnosing ADHD in adulthood could result in overdiagnosis and inappropriate medication use. It is important to note that the *Diagnostic and Statistical Manual of Mental Disorders*, (DSM-5), does provide criteria for diagnosing ADHD in adults. However, the diagnosis should be made based on a comprehensive evaluation that includes a clinical interview, rating scales, and corroborative evidence from childhood school reports.

2.12 Medical management when treating ADHD

With reference to medication as a first line of treatment, some experts argue that medication, such as stimulant medication should be the first-line treatment for ADHD due to their effectiveness in reducing core symptoms. Others express concerns about overreliance on

medication and advocate for non-pharmacological interventions, such as behavioural therapy and lifestyle modifications, as initial treatment approaches.

2.12.1 Long-term efficacy and safety:

The long-term efficacy and safety of ADHD medications have been a subject of debate. Some argue that medication can provide sustained symptom relief and improvements in functioning over an extended period. Critics raise concerns about potential side effects, such as appetite suppression, sleep disturbances, cardiovascular risks associated with long-term use. They also question the durability of medication's effects after discontinuation.

2.12.2 Complementary and Alternative treatments:

The use of complementary and alternative treatments for ADHD, such as dietary modifications, herbal supplements, neurofeedback, or mindfulness-based interventions, has generated debates.

Critics argue that many of these alternative treatments lack sufficient scientific evidence supporting their effectiveness compared to medication or behavioural interventions. They emphasize the importance of evidence-based approaches.

2.12.3 Overdiagnosis and overmedication:

There are concerns about overdiagnosis and overmedication of ADHD, particularly in children. Critics argue that inadequate diagnostic evaluations and societal pressures have led to unnecessary medication use (American Psychiatric Association, 2013).

Advocates assert that while overdiagnosis and overmedication are issues, underdiagnosis and undertreatment of ADHD are also prevalent. They highlight the importance of accurate diagnosis and appropriate medication use for individuals who genuinely have ADHD.

2.12.4 Individualised Treatment Approaches:

The debate revolves around whether ADHD management should follow a standardized approach or be individualized based on the specific needs and characteristics of each individual (American Psychiatric Association, 2013).

Some argue that a standardised approach involving medication and structured interventions, can provide consistent outcomes in managing ADHD symptoms (American Psychiatric Association, 2013). Others advocate for personalized treatment plans that consider various factors, including comorbidities, patient preferences, and response to previous treatment options.

2.13 How is ADHD scientifically diagnosed?

The scientific diagnosis of ADHD involves a comprehensive and multi-faceted assessment process. A single definitive test or biomarker for ADHD does not exist, so diagnosis relies on a thorough evaluation of an individual's behaviour, symptoms, and history. Here are the key components of the scientific diagnostic process for ADHD:

2.13.1 Clinical evaluation: a healthcare professional, typically a psychiatrist, psychologist, or paediatrician, conducts a clinical evaluation (American Psychiatric Association, 2013). This involves gathering information about the individual's developmental history, medical history, and current symptoms.

2.13.2 Diagnostic criteria: the clinician refers to established diagnostic criteria, such as those outlined in the diagnostic and statistical manual of mental disorders (DMS-5). The DMS-5 provides a specific criterion for diagnosing ADHD, including symptoms related to inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2013).

2.13.3 Observations and reports: information is gathered from multiple sources, including parents, teachers, and other caregivers. Observations and reports of the individual's behaviour in different settings, such as home and school, contribute to the diagnostic process.

2.13.4 Rule out other conditions: it is crucial to rule out other medical or psychological conditions that may mimic or coexist with ADHD (American Psychiatric Association, 2013). Conditions such as learning disabilities, anxiety, depression, and sleep disorders can share symptoms with ADHD.

2.13.5 Behavioural assessments: behavioural assessments may be conducted to observe and measure specific behaviours associated with ADHD. These assessments can provide valuable information about the severity and impact of symptoms on daily functioning.

2.13.6 Psychological testing: psychologists may use standardised psychological tests to assess cognitive abilities, attention, and executive functions. These tests can provide additional insights into an individual's strengths and challenges (American Psychiatric Association, 2013).

2.13.7 Duration and severity: ADHD is diagnosed when symptoms persist for a specified duration (at least six months) and significantly impair functioning in multiple areas of life, such as academic, social or occupational functioning (American Psychiatric Association, 2013).

2.13.8 Cultural considerations: clinicians take into account cultural factors that may influence behaviour and the expression of symptoms (American Psychiatric Association, 2013). It is important to consider whether observed behaviours are within the range of cultural norms.

2.13.9 Feedback and communication: the diagnostic process often involves feedback sessions with the individuals and their family. Clinicians explain the findings, discuss treatment options, and address any concerns (American Psychiatric Association, 2013).

2.13.10 Monitoring and follow-up: continuous monitoring and follow-up are essential to assess the effectiveness of interventions and make adjustments as needed. The diagnostic process is dynamic, and ongoing communication with healthcare professionals is crucial for effective management (American Psychiatric Association, 2013).

2.13 Conclusion

This chapter reviewed the literature presented by various scholars on ADHD. Research indicates that untreated childhood ADHD leads to long-term repercussions. Individuals with childhood ADHD experience difficulties and struggles that have long-lasting impacts into their adulthood. Some challenges include difficulties in school, strained relationships, emotional distress and a higher chance of substance addiction, and poor quality of life. The studies reviewed indicate that children who do not receive adequate and appropriate treatment had significantly increased rates of comorbidities, school dropout, early pregnancy, and involvement in criminal activity.

Misdiagnosis or underdiagnosis of the disorder appears to be common due to the complexity and uniqueness of the symptoms. Overlapping conditions, like depression and anxiety, gender bias, stigma and reluctance confound the misdiagnosis or underdiagnosis of the disorder and has often exacerbated the conditions due to a lack of proper medication and care. Regarding this, the significance of proper medical management, and consideration of the uniqueness of the individual's case was emphasized

In Chapter 3, the description of the theoretical frameworks that underpin this study as well as the rationale for choosing them will be discussed. The two theoretical frameworks that I use are Bronfenbrenner's Ecological Systems Theory, and Engel's Biopsychosocial Theory.

Chapter 3:

Theoretical Framework

3.1 Introduction

In the previous chapter, the research literature on childhood ADHD was reviewed. The literature indicates that untreated, undetected, misdiagnosed or neglected childhood ADHD has severe long-term consequences for the individual. To understand the contextual factors and the impact of this phenomenon, in this chapter I will discuss two theoretical frameworks I use to underpin my study, namely, Bronfenbrenner's Ecological Systems Theory, and Engel's Biopsychosocial Theory.

A theoretical framework is a conceptual framework that provides a structure for understanding and interpreting a particular topic. It consists of a set of interconnected concepts, theories, and assumptions that guide the research process and help researchers organize and analyse their data (Roberts, 2023).

3.2 Understanding the Biopsychosocial Theoretical framework.

The biopsychosocial theory is the framework that recognises the complex interplay between biological(bio), psychological (psycho), and social (social) factors in understanding and treating ADHD (Roberts, 2023). This framework suggests that these three domains interact and influence each other to contribute to the development and manifestation of ADHD symptoms.

Biological Factors: The biological component of the biopsychosocial theory focuses on understanding the neurobiological mechanisms underlying ADHD (Roberts, 2023). Research has shown that individuals with ADHD often have differences in brain structure and function, particularly in regions associated with attention, impulse control, and emotional regulation. Additionally, neurotransmitter imbalances, such as reduced levels of dopamine and norepinephrine, have also been implicated in ADHD. Genetic factors are also believed to play a role, as there is evidence of ADHD having a hereditary component.

Biology refers to our genetics, physical health, and the functioning of our organ systems. Our physical well-being impacts our mental health (Roberts, 2023). First, our brain is an organ and can become unwell just like any other organ. Second, physical health conditions can affect mental health. For example, chronic pain can lead to symptoms of depression.

Psychological Factors: The psychological component of the biopsychosocial theory considers the individual's psychological characteristics and processes. This includes examining cognitive processes, such as executive functions (e.g., working memory, attention control), which are often impaired in individuals with ADHD. Psychological factors also include the individual's temperament, self-esteem, and coping strategies, which can influence how ADHD symptoms are experienced and managed. For example, an individual with low self-esteem may struggle with the emotional impact of ADHD symptoms (Roberts, 2023).

Social Factors: The social component of the biopsychosocial theory emphasises the impact of social interactions, environmental influences, and sociocultural factors on ADHD. For instance, family dynamics, parenting styles, and the quality of social support can influence the expressions and management of ADHD symptoms (Roberts, 2023). Factors such as school environment, peer relationships, and access to healthcare and resources also play a role in shaping the experiences of individuals with ADHD.

The biopsychosocial theory emphasizes that ADHD is not solely determined by any single factor but is a product of the complex interactions between biological, psychological, and social factors. Therefore, understanding ADHD and its treatments requires consideration of all three domains. This comprehensive approach allows for a more holistic understanding of the disorder and facilitates the development of interventions that address the unique needs of individuals with ADHD.

3.3 Advantages of the Biopsychosocial Theory

The advantages of the Biopsychosocial model are found in its holism, awareness of levels in nature, and inclusiveness of diverse perspectives (Roberts, 2023). Its advocates argue for the necessity in thinking about and treating illness via a biopsychosocial lens by pointing out that social and behavioural factors play an obvious and major role in human health overall (e.g., poor eating habits and obesity, etc). a reductionistic physicalism does not help in our understanding of these phenomena.

The biopsychosocial model does not consider health to be a deviance from some constant physiological state. Instead, it emphasises on health and illness being a result of social, psychological as well as biological factors interacting together.

Another advantage of the biopsychosocial model is that cure, recovery, and good health are not completely in the hands of medical experts but are partly in control by the patients themselves. Along with medical experts taking care of the biological treatment, parents and

their families can maintain a demeanour that will result in quick psychological and social recovery, which will help better and faster physiological recovery. When using this approach, patient rarely feels helpless or out of control (Roberts, 2023).

Since the model does not believe that illness is caused only because of viruses or bacteria, it promotes better psychological conditions and better social interaction. Similarly, it advocates social support, leading to a promotion of community-based living in society. This in turn affects the general well-being of society at large for the better. Therefore, based on the outlined advantages, this theory will provide a holistic understanding of the experiences of those adults who suffered with untreated ADHD during their childhood years.

3.4 Disadvantages of the Biopsychosocial Theory

The biopsychosocial model assumes that all mental illness is, in fact, biopsychosocial. Critics feel that assuming every mental disorder to be biopsychosocial will exacerbate rather than reduce the stigma that is attached to these disorders. If it is assumed that every physical injury, or societal effect results in every mental illness, then diagnosis becomes impractical, and may lead to confused treatment with potentially grave consequences. While some mental disorders can be explained with the biopsychosocial model, it is incorrect to assume that this model is applicable to every illness (Roberts, 2023).

Another disadvantage of the model, as pointed out by critics, is that it can be confusing and misleading for new users to apply correctly. The model vaguely tends to suggest that biology and psychology are two separate fields in medicine. This leads to misunderstandings on the part of a new user, who may not understand what symptom of a patient is to be categorised in which factor.

Another disadvantage of the model, as pointed out by critics, is that it can be confusing and misleading for new users to apply correctly. The model vaguely suggests that biology and psychology are separate fields in medicine, leading to misunderstandings about which symptoms should be categorised under which factor.

The biopsychosocial theory takes into consideration the effects of society on an individual, including his religious beliefs, primary and secondary relationships, work history, past incidents, etc. However, it can get very impractical to take so many social factors into consideration when trying to analyse a patient's problem. For experts, it can also be difficult to decide which social factors should be considered along with the psychological and biological factors (Roberts, 2023).

3.5 The relevance of using the Biopsychosocial model for my study.

Comprehensive understanding: ADHD is a complex disorder that involves multiple factors. Using this model allowed me to consider the biological, psychological, and social aspects concomitantly providing me with a more holistic understanding of the experiences and conditions specific to each participant. By looking at multiple dimensions through this model, it gave me a better understanding of the complex relationships between the three factors and how it has impacted the different participants in unique ways.

Personalized treatment: the biopsychosocial model recognises that ADHD symptoms can vary among participants, and based on that treatment for each participant will be different. Since I was interested in understanding the experiences of each participant, this model complimented my study as it provided me with an explanation for the various treatment plans for each participant.

Contextual understanding: Examining the social and environmental factors associated with ADHD through the biopsychosocial model allowed me to understand how these factors interact with the participant's biology and psychology. Understanding the social context allowed me to clearly identify the different stressors, family dynamics, and environmental factors that have an impact on ADHD symptoms. This also gave me a better understanding as to why certain interventions and support strategies were appropriate.

Social understanding: Family dynamics and parenting styles can influence the manifestation and severity of ADHD symptoms. Supportive family environments can contribute to better outcomes for individuals with ADHD. Research shows that classroom settings, teaching styles, and peer interactions significantly impact individuals with ADHD. A study in *The Journal of Attention Disorders* found that structured environments enhance academic performance in ADHD students (DuPaul et al., 2011). *Learning Disabilities Research & Practice* highlighted that interactive teaching methods are more effective than traditional lectures (Abikoff et al., 2002). Peer interactions, as noted in *Developmental Psychology*, also affect social functioning, with children with ADHD often facing rejection or bullying (Hoza, 2007). These factors play a crucial role in the development and management of ADHD.

In addition, classroom settings, teaching styles, and peer interactions can impact academic performance and social functioning in individuals with ADHD. Having an understanding of the above-mentioned dynamics gave me a better understanding of the impact social factors play in the development and management of ADHD.

Treatment implications: The biopsychosocial model supports a comprehensive and multidimensional approach to ADHD treatment. Interventions may include a combination of medication, behavioural therapy, psychoeducation, and environmental modifications. Addressing both the individual's internal experiences (biological and psychological) and external influences (social environment) is essential for comprehensive ADHD management.

3.6 Understanding Bronfenbrenner's Ecological Model

Bronfenbrenner's ecological model provides a comprehensive framework for understanding human development within the context of various interacting systems. Bronfenbrenner suggested that an individual's development is influenced by a series of nested environmental systems, and these systems collectively shape the development of an individual (Shelton, 2018).

The model consists of five systems, each of which plays a unique role in influencing an individual's development. These systems are the microsystem, mesosystem, exosystem, macrosystem and chronosystem. These were discussed in Chapter 1.

For the purposes of this study, I explored the microsystem as well as the mesosystem.

3.6.1 Understanding the microsystem and mesosystem.

The microsystem refers to the immediate environment in which individuals directly interact. This includes a person's family, friends, school, and community (Shelton, 2018)).

The microsystem has the most direct influence on the individual's development and experiences, as it comprises the people and institutions with whom they have face-to-face interactions.

The mesosystem encompasses the connections between various microsystems (Shelton, 2018). It includes the interactions and relationships between different settings in a person's life, such as the relationship between the family and school or between the family and community. The mesosystem influences how experiences and events in one microsystem can impact the person's development in another microsystem.

It is important to note that Bronfenbrenner's model emphasizes the mutual and bidirectional interactions between individuals and their environment (Shelton, 2018). It recognises that an individual's development is influenced not only by the environment but also by the person's characteristics and actions themselves.

3.6.2 Relevance of the Bronfenbrenner's Ecological Model to my study

Bronfenbrenner's model is immensely helpful in understanding individuals as it provides a holistic framework for examining the various systems that influence an individual's development (Harkonen, 2001).

Below are a few ways in which this model helps in understanding individuals.

Systems perspective: this model encourages viewing individuals not in isolation but as part of a complex web of interconnected systems. By exploring the multiple levels of influence, it helps us understand how the individual's development is shaped by interactions with various environments (Shelton, 2018).

Environmental influences: this model highlights the significance of environmental factors in understanding human development. It recognises that individuals are affected by factors beyond their immediate sphere, such as societal norms, cultural practices, and economic conditions (Shelton, 2018). This broader understanding allows for a more holistic understanding of an individual's experiences and behaviour.

Interactions and relationships: this model stresses the importance of relationships and interactions within the different systems (Harkonen, 2001). It recognises that individuals are deeply influenced by their interactions with family, peers, educators, and wider community networks. Understanding these dynamics help in comprehending how relationships impact development.

3.7 Conclusion

This chapter reviewed two theoretical frameworks, namely, Engel's Biopsychosocial Theory, and Bronfenbrenner's Ecological Systems Theory. The frameworks were chosen because they provide a holistic view of individuals, leading to a thorough understanding of their condition of ADHD and personal experiences regarding the impact of this neurobehavioural disorder on their lives

The biopsychosocial model which is broken up into three categories: biological (the genetic and predisposition element of ADHD), psychological (the individuals' thoughts, beliefs, and perceptions about their own experiences) and social (the individual's social environment, including their relationships, community, and cultural context) provides a comprehensive framework with which to analyse the data emerging from the study

With reference to Bronfenbrenner's Ecological System's Theory, I focussed on two

components mainly, – the microsystem and the mesosystem as I explored the prevalence and impact of ADHD at these levels

Using these frameworks and applying it to the unique cases of the participants in my study gave me a through and holistic view of how ADHD presents itself in different individuals and the consequences they experienced.

In the next chapter (Chapter 4), the research design and methodology for this study will be explained.

Chapter 4: **Research Design and Methodology**

4.1 Introduction

The purpose of this study was to gain an in-depth understanding of the consequences of untreated childhood ADHD from the perspective of adults who experienced it. Additionally, the study aimed to explore whether early intervention could have enhanced their lives and improved their overall quality of life, according to these participants.

In Chapter 3, the theoretical frameworks used to guide this study were explained, namely, Engel's Biopsychosocial Theory, and Bronfenbrenner's Ecological Systems Theory. These frameworks provided a holistic view of individuals, leading to a deeper understanding of their condition and personal experiences of the impact of ADHD on their lives.

In this chapter, the research design and methodological approach that addressed the research questions in the study will be discussed. Firstly, the research paradigm for the study will be explained; secondly, the research design will be explained, and thirdly, the methodological aspects of the research will be discussed. Lastly, the validity and reliability and the ethical considerations of the research will be explained

The methodical process of obtaining, interpreting, and analysing information to further investigate a topic is referred to as research. It includes the gathering of information, the analysis of theories and body of knowledge, and the creation of original theories (Miller & Salkind, 2002). The main objective of research is to produce knowledge and advance understanding of a certain field. Research design is a strategy that specifies the format and methodology of a research project. It serves as a roadmap for carrying out the study and directs the researcher in selecting important variables for the technique, data gathering, and analysis (Miller & Salkind, 2002). This study employs such systematic and methodical process of data gathering and analysis.

4.2 Research Questions

Based on the following objectives of the study, the research questions were created. The objectives of this study were:

1. To explore adults' experiences of untreated childhood ADHD.
2. To explore the benefits of treating ADHD early.
3. To understand the lived experiences of individuals with untreated childhood ADHD and how these experiences may relate to substance abuse

The study was guided by the following research questions:

1. How do adults describe their experiences of untreated childhood ADHD?
2. What are the benefits of treating ADHD early?
3. What is the relationship between your untreated childhood ADHD and the prevalence of substance abuse?

4.3 The Research Paradigm

A research paradigm refers to a framework that guides researchers in their understanding and approach to conducting research (Creswell, 2014). It encompasses a set of beliefs, assumptions, and methodologies that shape the researcher's perspective and influence their choice of research methods (Creswell, 2014). There are several paradigms that researchers subscribe to depending on their worldview, namely, positivist paradigm, interpretivist paradigm and critical paradigm. As researchers, it is essential to comprehend and express beliefs about the nature of reality, what can be known about it, and the methods of acquiring this knowledge. Each of one these have a different view of reality (ontology) and epistemology (understanding of what knowledge is and how it is created). These in turn affect the methodology and methods (how data is to be collected and specific strategies) and the values (axiology) associated with the research and researcher.

A paradigm represents a fundamental belief system and theoretical framework with assumptions regarding 1) ontology, 2) epistemology, 3) methodology, and 4) methods. In the following sections, the components of a research paradigm are explained in more detail. . I also discuss the specific characteristics of the Interpretivist paradigm and explain how it applies to the research study on the participants' experiences of the impact of untreated childhood ADHD on their lives as adults.

4.3.1 The Interpretivist Paradigm

The interpretivist research paradigm focuses on the understanding and interpreting of the subjective meaning and experiences of individuals (Denzin & Lincoln, 2011). Interpretivism is based on the belief that reality is socially constructed, and therefore, researchers aim to understand the multiple interpretations and perspectives of participants in the study. Researchers using this approach aim to uncover the rich and contextualised meanings that individuals attribute to their experiences, actions, and interactions with others (Denzin & Lincoln, 2011). This approach places importance on the role of language, culture, and social context in shaping human behaviour and understanding. Patton and Cochran (2002, p.3) elaborate that “qualitative methods generally aim to understand experiences”.

According to Rehman and Alharthi (2016) interpretivism developed in response to the dominance of positivism, challenging the notion of a single, independent reality. Instead, interpretivists argue for socially constructed, multiple realities. According to this view, reality and truth are not discovered but created, mediated by human perception and context. This approach emphasizes subjectivity, as researchers are seen as part of the social reality they study, influencing and being influenced by it (Rehman & Alharthi, 2016). Different, well-reasoned interpretations of the same phenomenon are accepted, highlighting the diversity of perspectives. Interpretivist research aims to understand social phenomena through the eyes of participants, typically using qualitative methods like open-ended interviews and observations (Rehman & Alharthi, 2016). Trustworthiness is assessed by criteria such as credibility, transferability, dependability, and confirmability. Although interpretivism faces criticism for perceived softness and limited generalizability, it is praised for its detailed and systematic approach to exploring complex social realities.

This study adopted a qualitative research design as it sought to understand the experiences of children with untreated ADHD, but through their voices as adults. In the following subsections, I will explain the main components of a paradigm, discuss their specific characteristics within the Interpretivist paradigm, and explain how these applied to the research study on the impact of untreated childhood ADHD on adults as they experienced these.

4.3.1.1 Ontology

Ontology and epistemology form the foundations of the whole edifice (Grix, 2004). Ontology concerns “the nature of our beliefs and reality” (Richards, 2003). Researchers hold assumptions, sometimes implied, about reality, its existence, and what can be known about it. Ontology questions drive researchers to explore the nature of reality, whether it is “a singular, verifiable reality and truth or socially constructed multiple realities” (Patton, 2002, p. 134). In other words, a positivist will subscribe to the view that reality is objective, and is measurable by objective methods, whereas the researcher in the interpretivist paradigm will consider reality is constructed by individuals and has multiple realities and meanings.

In my study of the *Experiences of Untreated Childhood Attention Deficit Hyperactivity Disorder Through their Voices as Adults*, reality is regarded as multiple; hence the participants voices are regarded as important and forms the data to be analysed. Each participant brought to the research context the reality he or she experienced with ADHD. The data was analysed thereafter to find common themes that those realities could be understood.

4.3.2.1 Epistemology

Epistemology, the philosophical study of knowledge, focuses on how knowledge is understood, acquired, and validated (Gall, Gall, & Borg, 2003). It examines the types of knowledge, their acquisition, and their communication to others (Cohen, Manion, & Morrison, 2007). Researchers use epistemological questions to address the feasibility and desirability of objectivity, subjectivity, causality, validity, and generalizability (Patton, 2002). Ontological beliefs guide epistemological assumptions. For example, a positivist believes in a single, verifiable truth, and therefore the researcher remains objectively detached to uncover the true nature and functioning of things (Guba & Lincoln, 1994). Conversely, an interpretivist believes in multiple socially constructed realities, which leads researchers to engage deeply with subjects to understand phenomena within their specific contexts. Hence, this study used a qualitative methodology and methods to explore the realities of the participants as they understood it.

4.3.3.1 Methodology

Methodology is a theoretically informed approach to producing data (Roberts, 2023). It involves studying and critically analysing the techniques used to generate data. Methodology encompasses the strategies, plans, processes, or designs that influence the selection of research methods (Roberts, 2023). It addresses how to conduct a specific research project (Grix, 2004). Methodology helps researchers determine what type of data is needed and which tools are best suited for generating that data. It involves questions about the best way to study the world. My study on the nuanced experiences of untreated childhood ADHD through their voices as adults, uses a qualitative methodology. A qualitative methodology focuses on the collection of textual and verbal data expressed by the participants. This will be discussed in greater detail under section 4.3.5 below

4.3.3.1 Methods

Methods are specific techniques for gathering and analyzing data, such as questionnaires and open-ended interviews. The choice of methods for a research project depends on the project's design and the researcher's theoretical perspective. In my study, the qualitative research method was used. I conducted telephonic interviews with the participants, during which they shared their experiences in depth. The interviews were semi-structured, allowing for flexibility in the conversation as it unfolded. This format enabled me to ask probing and follow-up questions to explore their responses more thoroughly, providing richer, more nuanced insights into their experiences. Additionally, the open-ended nature of the interviews

allowed participants to reflect freely, which contributed to a deeper understanding of their perspectives.

4.3.5 Qualitative Research

A qualitative approach to a study refers to a research method that focuses on understanding and interpreting the meanings, experiences, and perspectives of participants. This approach involves collecting non-numerical data, such as words, images, or objects, through methods such as interview focus groups, observations, and content analysis. (Creswell & Poth, 2018; Denzin & Lincoln, 2018; Patton, 2015). The objective is to gain a deep, rich, and detailed understanding of the subject matter from the viewpoint of those being researched.

The key characteristics of qualitative research include subjectivity, which emphasises the subjective experiences and meanings constructed by individuals, and contextual understanding, which considers the context in which participants' experiences occur. Qualitative research is often exploratory in nature, used to investigate new or complex phenomena where little is known (Creswell & Poth, 2018). It also features a flexible research design, allowing for adjustments in the research process as new insights emerge.

The methods for conducting a qualitative study include interviews, which can be one-on-one or group conversations to explore participants' thoughts and feelings. Focus groups involve group discussions to gather diverse perspectives on a topic (Denzin & Lincoln, 2018; Patton, 2015). Participant observation entails immersive involvement in a community or setting to observe behaviours and interactions. Content analysis involves analysing texts, media, and documents to understand communication patterns (Denzin & Lincoln, 2018; Patton, 2015)

This study employed a qualitative approach as it aimed to understand, interpret and analyse the subject experiences of adults who have suffered with untreated childhood ADHD throughout their childhood. This approach was the most suitable approach as by means of interviews the researcher could probe and converse getting a deeper insight into the actual experiences of the participants as it collected non-numerical data which were the words, of the participants through narrative methods and semi-structured interviews.

The reflective journals that were used as a data generating tool is quite a useful qualitative tool as it allowed for the participants to write their experiences and be as real as possible without any interferences. Although data collection was done via Zoom (online), journals were sent to participants, and after they used them, they emailed the completed journals back to me. The reflective journals also allowed the participants an opportunity to reflect on past

experiences and provide greater insight into the second research question which is “What are the benefits of treating ADHD early?”

Reflective journals provide a valuable qualitative approach for capturing the personal narratives and introspections of participants (Creswell & Poth, 2018; Moon, 2006). This method allows for rich, detailed descriptions and offers longitudinal insights into participants' experiences (Ortlipp, 2008). Reflective journals are widely used in educational research, professional development, and therapeutic settings to explore and understand the complexities of participants' experiences (Creswell & Poth, 2018; Moon, 2006; Ortlipp, 2008).

According to Goldkuhl (2012, p.1) “qualitative research is often associated with interpretivism” and is largely dependent on information that is not expressed in numbers, but instead, descriptives such as data generated through interviews and observations. The qualitative methods used in my research align with this definition as the data collected consisted of verbal, textual data

4.3.6 Benefits of using interpretivist paradigm

One of the main benefits of the interpretivist paradigm is that it allows methods of data collection that produce deep, rich data. I discuss a few other advantages here:

Understanding subjective experiences: this paradigm enables researchers to comprehend and evaluate the subjective experiences of people. This is helpful when it comes to examining intricate social and cultural phenomena. It is important that we understand the experiences of the person diagnosed with ADHD as gives a clear understanding of why treatment was not taken or perhaps not administered. Through the interpretivist lens, the views of the parents or care givers of individuals diagnosed with ADHD are established, which provides the researcher with causal factors as to why the diagnoses was left untreated (Dedeaux, 2018).

Context is heavily stressed by interpretivism: the environment in which social behaviour takes place. This assisted in identifying and analysing elements such as cultural norms, social structure, and historical patterns (Dedeaux, 2018). These elements were very useful in terms of understanding why the individual's childhood ADHD was untreated and helped provide reasons for certain beliefs and conceptions.

The qualitative approach along with the interpretivist paradigm was adopted in this study to

explore the experiences of untreated childhood ADHD through reflective journals and interviews.

4.4 Location of study

This study was conducted in the Durban area within KwaZulu-Natal. There were five participants within the age group of 18 to 44 years involved in this study. The participants are a diverse group and represents the various races, age group and socio-economic backgrounds.

The data was generated by means of interviews and reflective journals; therefore, a qualitative research method was employed. I posted an advertisement on *LinkedIn*, inviting individuals who met the study's criteria to voluntarily apply as participants. The criteria was those who had been diagnosed with ADHD and were left untreated or received inadequate treatment. After recruitment, I scheduled online Zoom sessions with each participant and conducted semi-structured

interviews. The interview questions served as a guideline to initiate conversation, but the flow and probing of the discussion were shaped by the participants' responses. The reflective journals were used to capture participants' thoughts on their understanding of ADHD, based on their retrospective experiences.

4.5 Population and Sampling

The target population is defined as the entire group of individuals or elements that researchers aim to study and from which they want to generalize their findings (Creswell & Creswell, 2018). It represents the larger population from which the sample is drawn.

For this study, the target population was adults who experienced untreated ADHD during their childhood years. This population provides insight into the long-term effects of untreated ADHD and their perceptions of early intervention.

When participants volunteer themselves for a study, self-selection sampling is typically employed. This approach relies on the willingness of individuals to participate, often resulting in a sample that is highly engaged but may not be representative of the broader population (Creswell, 2014; Etikan, Musa, & Alkassim, 2016). This method is particularly useful in exploratory research, pilot studies, and studies targeting specific populations (Battaglia, 2008).

The sensitivity of this study could not allow for purposive sampling as it required participants to volunteer themselves depending on how comfortable they were with sharing their experiences. A request to those who meet the requirements of the research was shared on *LinkedIn* and volunteers who were willing to engage in this research elected themselves. This

is how the sample was formed.

The self-selection sampling method has several advantages, namely:

The participants' willingness to be part of the study is based on their interest and relevance to the research topic, which helps ensure that participants are engaged and motivated. Ease of access is another advantage, as it is often easier and quicker to gather participants, especially for studies that require specific experiences or insights (Creswell, 2014; Etikan, Musa, & Alkassim, 2016). However, there is potential bias, that since it is limited to those who are motivated to volunteer, the sample may not be representative of the broader population. Therefore, based on the advantages highlighted above, I utilised the self-selection method of sampling to ensure that the participants were willing, engaged and open to sharing such sensitive experiences.

4.5.1 Biographical details of the five participants:

All five participants in the study requested to remain anonymous. As part of the ethics of research, this also fulfils the requirements of confidentiality and anonymity. In the table below, I have included some biographical details about the participants to provide a better understanding of some characteristics of the participants.

Participant	Gender	Age	Academic qualification	Age of diagnosis
1	Male	44 years	Mechanic	11 years
2	Female	42 years	Teacher	9 years
3	Male	30 years	Doctor	11 years
4	Male	35 years	Accountant	11 years
5	Female	18 years	Student	7 years

Figure 4.1: Biographical details of volunteer participants

4.6 Narrative research

The narrative approach offers deep insights into the experiences of adults with untreated childhood ADHD. By empowering participants' voices, it highlights how untreated ADHD influenced their development, relationships, and self-perceptions, revealing the flow of events shaping their understanding of past struggles (Creswell & Poth, 2018; Riessman, 2008).

Through narrative, participants recount their experiences, merging the telling of their personal stories with the events themselves. Regardless of their accuracy, these narratives are intrinsic to their understanding of their experiences. Narrative accounts thus provide rich, detailed insights into how these individuals navigated social interactions, moral conduct, and their perceived roles in various cultural and societal contexts.

Given the deeply personal and subjective nature of ADHD's long-term impact, a narrative approach is well-suited to exploring these experiences. It allows the researcher to understand participants' perceptions of ADHD symptoms, their awareness (or lack thereof) of their condition as children, and the effect untreated ADHD had on their lives. As Creswell (2002, p.150) highlights, a narrative researcher seeks to explore a research problem by delving into the participants' experiences. In this study, the narrative approach served as an essential tool to capture the voices of adults reflecting on untreated childhood ADHD, providing both rich data for analysis and a way to engage broader audiences with their lived experiences.

The benefits of using narrative research are:

Deep Understanding of Experiences:

In this study, the narrative approach provided rich, detailed descriptions of participants' struggles with ADHD symptoms, their evolving awareness of those symptoms, and the long-term impacts of not receiving treatment. For example, participants shared complex and deeply personal accounts of how untreated ADHD influenced their academic performance, relationships, and self-esteem. The nuanced understanding was demonstrated in how individual participants interpreted their childhood difficulties differently—some perceiving them as personal failures, while others attributed them to external factors like unsupportive environments. This depth would have been missed in a surface-level inquiry.

Contextual Insight:

The narratives revealed how social, cultural, and historical contexts shaped participants' experiences with untreated ADHD. For example, some participants discussed how the lack of ADHD awareness in their cultural communities or the stigmatization of mental health issues contributed to delayed recognition and treatment. This contextual insight demonstrated itself in the way participants situated their personal challenges within broader societal norms, reflecting how cultural attitudes and educational systems either exacerbated or neglected their ADHD.

Participant Empowerment:

In the study, participants were given the freedom to express their stories in their own words, which fostered a sense of empowerment. They recounted their experiences without interruption, sharing not only their struggles but also moments of resilience and success. For many, this was a rare opportunity to be heard and to contribute to a conversation about ADHD. Their reflections on what early intervention might have changed in their lives gave them a powerful voice in discussions on the importance of mental health awareness.

Holistic View:

The narrative approach allowed participants to present a holistic view of their lives, highlighting how different aspects of their experiences—academic challenges, social interactions, familial dynamics—were interconnected. For instance, some participants described how untreated ADHD affected not only their schooling but also their family life, relationships with peers, and eventual career paths. This interconnection was critical in understanding how untreated ADHD shaped their overall life trajectories.

Flexibility:

The flexibility of the narrative approach was evident in the way the study adapted to various participant experiences and stories. Some participants had vivid memories of childhood symptoms, while others reflected more on the long-term consequences in adulthood. This adaptability allowed the research to gather a wide range of experiences, from those who were only recently diagnosed to those who remain undiagnosed but suspect ADHD played a role in their lives.

Rich Data for Analysis:

The study benefited from the rich, layered data that narratives provided. Participants offered detailed accounts of their childhood behaviours, emotional responses, and coping strategies. This richness allowed the analysis to explore multiple themes, such as the emotional toll of untreated ADHD, the role of social stigma, and how early intervention could have shifted life paths. The in-depth stories provided a wealth of data, revealing patterns across diverse experiences and identifying common themes like isolation, frustration, and missed opportunities.

Engagement and Relatability:

The narrative accounts made the study's findings both engaging and relatable. By focusing on personal stories, the research brought the abstract concept of untreated ADHD into real-life

scenarios, making it more accessible to a broader audience. Readers could connect with the participants' journeys, understand the emotional impact of their experiences, and empathize with the challenges they faced. This engagement strengthened the impact of the study's conclusions, emphasizing the importance of awareness and early intervention.

4.7 Research design

The research design that was employed was the phenomenological research design.

Phenomenology focuses on understanding and describing the essence of individuals' lived experiences regarding a particular phenomenon (Creswell & Poth, 2018; Van Manen, 2016). This design is ideal when the research aims to explore how participants make sense of their experiences and the meanings they attach to them.

Some of the characteristics of this research design are, firstly, the focus on lived experiences as this emphasizes understanding the subjective experiences of participants; secondly, in-depth exploration which involves deep, detailed data generation to capture the essence of the phenomenon (Creswell & Poth, 2018; Van Manen, 2016), and thirdly, descriptive analysis, which seeks to describe the commonalities and essence of the experience across participants

Using the phenomenological approach allows researchers to gain a deep, participant-centred understanding of human experiences, exploring the meanings individuals attach to their experiences. This method offers flexibility, a holistic perspective, and practical relevance, making it a valuable approach for studies in various fields (Creswell & Poth, 2018; Moustakas, 1994; Van Manen, 2016).

The phenomenological research design was particularly well-suited for researching the effects of untreated childhood ADHD for several reasons:

Deep understanding of Personal Experiences: The reason for using phenomenological research was to capture the lived experiences of individuals, providing rich detailed insights into how untreated ADHD affected their daily lives, behaviours, emotions, and overall well-being. This depth of understanding was crucial for exploring a complex and multifaceted condition like ADHD (Moustakas, 1994).

Focus on Subjective perceptions: ADHD impacts individuals differently, and a phenomenological approach allowed this researcher to explore these subjective variations.

This method helped in understanding how each person perceived and coped with the challenges of untreated ADHD and shed light on the nuanced effects that would have been missed with more quantitative methods (Van Manen, 2016).

Context insight: The approach situates participants' experiences within their broader social, cultural, and familial contexts. This is important for ADHD, as the condition can influence and be influenced by various external factors. Understanding these contexts provided a more comprehensive view of how untreated ADHD affected children over time (Creswell & Poth, 2018).

Identification of Common Themes: Through in-depth interviews and analysis, phenomenological research can identify common themes and patterns across different individuals' experiences. These themes can offer valuable insights into the typical challenges and impacts of untreated ADHD, informing better support strategies and interventions (Moustakas, 1994).

Empowerment of Participants: Phenomenological research gives voice to those who live with ADHD, allowing them to share their stories and perspectives. This can be particularly empowering for individuals who may feel marginalized or misunderstood due to their condition. It also ensures that the research reflects the real-world experiences of those affected by ADHD (Van Manen, 2016).

After highlighting the above reasons, it is evident why this approach was adopted as the most well-suited research design for this study.

4.8 Data production tools

4.8.1 Interviews

Interviews in research are a qualitative data generation method where the researcher directly asks participants questions to gather detailed information about their thoughts, experiences, or perceptions. Interviews can be structured, semi-structured, or unstructured, depending on the level of flexibility in the questioning process.

According to Kvale and Brinkmann (2015), interviews in qualitative research are a method for gathering rich, detailed information directly from participants. Patton (2014) discusses the importance of integrating theory and practice when conducting qualitative research,

highlighting the role of interviews in capturing nuanced data. Silverman (2020) emphasizes the versatility and depth that qualitative interviews provide, making them a valuable tool in various research contexts. For my study, I developed a semi-structured interview schedule for the participants.

In the paragraph below I submit a set of core questions that I used for my semi-structured interview. The nature of these questions allowed me to use prompts and probing to seek clarity or more detail. The follow questions were my core questions:

1. How would you describe your experience as a child suffering with ADHD?
2. Do you believe that treatment would have curbed some of your symptoms? Why do you believe that?
3. In your opinion, how did your childhood untreated ADHD contribute to the challenges you are experiencing in your adult life?
4. What is your understanding of ADHD?
5. Describe your experiences as a child when you were dealing with untreated ADHD.
6. What would have been the benefits of treating your diagnosis early?
7. What would treatment of ADHD have prevented later in adult life?

4.8.2 Reflective narratives

Reflective narratives were utilized as my second data generation tool to obtain data from the participants. The benefits of using reflective narratives are numerous (Bourner, 2003; Levett-Jones, 2007; McGuiness & Brien, 2007; Ong, 2004). I requested a short written narrative from each participant to reflect on their understanding of ADHD, specifically how they have enacted their understandings of it. The data generated from the participants' narratives was used to identify common understandings of untreated ADHD as defined by those who experienced it firsthand. This data provided valuable insights into their retrospective thoughts on the potential benefits of early treatment, reflecting on how their lives might have been different had they received intervention during childhood.

4.9 Trustworthiness

For quantitative studies, the concepts of reliability and validity are used as these are statistical measures. With qualitative studies the concept “trustworthiness” is used in relation to ensure the credibility of the research. Trustworthiness has four components, namely, credibility,

transferability, dependability and confirmability. In the paragraphs below I define these concepts and explain how I ensured their application in my research

Cohen, Manion, and Morrison (2011) emphasize that trustworthiness is crucial in qualitative research, as findings may be deemed invalid without it. To ensure data trustworthiness, I recorded and transcribed the information. Emotional attachment to participants can compromise trustworthiness and negatively impact the research. Therefore, I maintained professionalism and relevance in my interactions. Bertram and Christiansen (2014) assert that “In interpretivist research, it is important that the research is credible: it must reflect participant reality” (p. 188). To ensure credibility in this study, I used an audio recorder for data generation and analysis, enabling more precise transcription.

Wiles, Crow, Heath, and Charles (2006, p.2) define confidentiality as "what has been discussed will not be repeated, or at least, not without permission". Participants were assured that their identities would be protected during and after the research. It is crucial to protect the identity of participants from whom data is gathered. To ensure this protection, participants' names were not mentioned in the study. Instead, pseudonyms were used where necessary, and participants were referred to as respondents 1, 2, 3, 4, and 5. Anonymity and confidentiality were promised to safeguard their privacy.

When data was gathered, participants' identities were not be accessible to others. The collected data will be securely stored at the University for a minimum of five years. All recorded data was used solely for this study, with access restricted to the researcher. Participation in the research posed no threat or hazard to the informants.

In qualitative research, ensuring rigor and trustworthiness is crucial. Chinn et al (2016), proposed four criteria for evaluating the trustworthiness of qualitative research: credibility, transferability, dependability, and confirmability. These criteria correspond to the concepts of validity and reliability of the study.

4.9.1 Credibility

Credibility refers to the confidence in the truth of the findings (Shenton, 2004). It gauges whether the research findings accurately represent the participants' understanding and experiences. Strategies that emphasise credibility are:

- Prolonged engagement – this is done by spending sufficient time in the field to get a thorough understanding of the context.
- Triangulation- this is done by using many data sources and methods to cross-check the data (Shenton, 2004)
- Member checking- this is done by involving participants in reviewing the findings.
- Peer debriefing- this is done by engaging with colleagues to review and challenge the findings (Shenton, 2004).

In my research, credibility was ensured in the following way: I had conducted multiple interviews with participants and requested them to write down some experiences in their reflective journals. I collated all the data that I had received from the interviews and journals. As the data analysis process proceeded, I consistently kept in contact with my participants, sharing with them the preliminary findings to ensure that their experiences were accurately captured.

4.9.2 Transferability

Transferability refers to the extent to which the findings of a study can be applied or transferred to other settings (Tracy, 2010). It is about providing sufficient detail so that readers can determine if the findings can be applied to their context. Strategies that emphasise transferability are:

- Thick description: this is done by providing a detailed and rich description of the research context, participants and findings (Tracy, 2010).
- Contextualisation: this is done by explaining the boundaries and context within which the study was conducted (Tracy, 2010).

To ensure transferability in my research, in recording my data analysis I included a table which highlighted the educational background of the participants as well as their gender and age. The criterion for participant selection was to include any person who had been diagnosed with ADHD as a child but who went through their entire childhood having it untreated. I had posted a *LinkedIn* advert and participants who were interested reached out to me. The study is a sensitive one, as not everyone who has suffered with untreated childhood ADHD is open to talk about it, as a result those who really wanted to share their experiences in the hope of

helping the study participated. I have discussed Volunteer sampling as the strategy in Section 4.5 above.

4.9.3 Dependability

Dependability refers to the stability and consistency of the research process over time (Guba,1981). It includes ensuring that the research process is logical, traceable and clearly documented. Strategies that emphasize dependability are:

- Audit trail: this is done by keeping detailed records of all aspects of the research process, including how the data was generated, analysed and how a decision was made.
- Peer examination: this is done by having peers review and examine the research process and findings (Guba,1981).

How dependability was applied in my research:

I kept a research diary documenting all decisions, challenges faced and how I overcame them. I also had my methodology and findings reviewed by peers for feedback.

4.9.4 Confirmability

Confirmability refers to the extent to which the findings of the study are shaped by the respondents and not researcher bias, motivation, or interest (Koch,2006). It confirms that the findings are the result of the experiences and ideas of the participants. Strategies that emphasize confirmability include *reflexivity*, which is done by introspecting on the researchers' biases, preferences, and preconceptions and how this may affect the out of the study (Koch,2006).

To ensure confirmability throughout my research, I documented everything I had done. I ensured that everything was dated and available at any given time. I kept a record of my data generation and analysis steps. Throughout the process, I reminded myself of potential biases through that I may have and made a conscious effort to introspect regularly. I also made sure I used two data source methods (interviews and reflective journals) to corroborate my findings.

4.10 Data Analysis

Data analysis is a process of “inspecting, cleansing, transforming, and modeling data with the goal of discovering useful information, suggesting conclusions, and supporting decision-making” (Dhar, 2013). It involves various techniques and tools to understand and interpret data, identify themes, and extract meaningful insights.

Qualitative data is said to be very challenging, however also enjoyable as it brings out themes and meaningful data from discussions that can produce insightful conclusions.

Qualitative data is valuable for the reasons below:

1. In-depth understating: qualitative data provides rich, detailed insights that can help understand the underlying reasons, motivations, and patterns behind behaviours and attitudes. This kind of data is often unattainable through quantitative data (Patton, 2002).

Contextualization: it helps to contextualize quantitative data by providing the background and environment in which the data is situated. This can lead to a more holistic view of the study (Creswell, 2013).

2. Flexibility: According to Denzin and Lincoln (2011), qualitative research methods are flexible and can be adjusted as new insights emerge during the research process. This adaptability allows researchers to explore new avenues and questions that arise, providing a more dynamic approach to data generation and subsequent analysis.
3. Human experience: it captures human experiences, emotions, and interactions, which are often missed by quantitative methods. This makes it particularly valuable (Strauss & Corbin, 1998).
4. Theory generation: qualitative data is instrumental in generating theories and hypotheses. Through inductive reasoning, researchers can develop new theories based on these that emerge from the qualitative data.

Patton and Cochran (2002) state the following as important in data analysis:

- a) Transcribing interview notes
- b) Thematic data analysis

There are numerous ways of analyzing data but for this study thematic data analysis was used. Thematic analysis is a method used in qualitative research which is helpful in identifying, analyzing and reporting patterns (themes) within data. Braun and Clarke (2006)

describe thematic analysis as a flexible method that can be applied across a range of theoretical and epistemological approaches. According to Braun and Clarke (2006), there are six phases of thematic analysis ensuring thoroughness and rigor. It is listed below:

1. Familiarization with the data- researchers immerse themselves in the data by reading and reading transcripts, noting down ideas that come to mind. This phase involves transcribing verbal data, reading through the data multiple times, noting down initial ideas. After generating my data, I read the transcripts of my interviews many times. I then highlighted and identified common ideas, words and experiences of my participants.
2. Developing initial codes- during this phase, the researcher must identify interesting features of the data systematically. Codes are meaningful labels attached to segments of data, capturing the essence of the data segment. During this phase, I highlighted common ideas and coded them by grouping and then labeling them. I highlighted and labelled pieces of text that appear relevant to the research question. For example, if a participant mentioned having experienced challenges with focusing, then I would code this segment as “challenges with attention.” If a participant talks about feeling different from peers, I coded this as “social challenges.”
3. Searching for themes- themes are developed by collating codes into potential themes and gathering all data relevant to each potential theme. This involves sorting the different codes into potential themes and collating all the relevant code data extracts within the identified themes. After getting my data, I collated codes into potential themes. I found is that sometimes two or more codes fitted together under a broader theme. I the created a thematic map to illustrate how different codes relate to each other. For example, codes like “challenges with attention,” “irritability”, “hyperactivity” could be grouped under a broader theme such as “academic challenges.” Codes like “feeling different”, “awkwardness in peer relationships”, “being a class laughingstock” could be grouped under a brooder theme such as “social experiences.”
4. Reviewing themes- themes are reviewed and refined, which involves checking if the themes work in relation to the coded extracts and the entire data set. At this phase I had to relook at the themes and determine if they needed to be separated into sub-themes. For example, whether the academic challenges could be broken down into “focus issues” or “academic impairment”.

5. Defining and naming themes- Themes are further refined and defined, providing clear definitions and names for each theme. Researchers define what each theme is about, determining the 'story' each theme tells, and how it fits into the broader overall 'story' of the data. At this phase, I creatively developed names for the themes identified. The theme names had to be a comprehensive one that provides context to the research.
6. Producing the report- Writing the report involves weaving together the analytic narrative and data extracts to tell the reader a coherent and persuasive story about the data. In my final report, I wrote about each theme in detail, making references to the data from the interviews that I had conducted. I also related these findings from my research to existing research identified in the literature on ADHD, discussing similarities, difference and new ideas.

Thematic analysis is accessible to novice researchers due to its clear and straightforward guidelines. Braun and Clarke (2006) argue that this accessibility does not affect the depth and complexity of the data.

4.11 Ethical Considerations

Research ethics refers to the principles and guidelines that govern the conduct of research involving human subjects, animals, and the environment. It aims to ensure the integrity of the research process and protect the rights and welfare of participants (Bosk & DeVries, 2004). research ethics is essential for maintaining trust in the research community, promoting responsible conduct, and ensuring that the benefits of research contribute positively to society. The categories considered in this research are voluntary participation, informed consent, anonymity and confidentiality and maleficence (Bosk & DeVries, 2004).

4.11.1 Voluntary Participation

All participation in the research was entirely voluntary. At no time were participants forced to take part. The researcher exercised caution during interviews and observations to ensure participants experienced no stress or discomfort. Participants were informed of their right to withdraw from the study at any time without any negative consequences; this was also stated in the consent form they signed. Before the research, participants were asked for permission to be audio or video recorded, and their responses were respected. The researcher respected participants' decisions and did not infringe on their rights. All informants were treated equally and fairly, without bias. Participants were regularly updated on the progress of the research.

4.11.2 Informed Consent

Bertram and Christiansen (2014, p.66) state that “consent means that the participants agree to take part in the study.” As the researcher, I obtained ethical clearance from the University of KwaZulu-Natal's Higher Degrees Department (HRSREC/00006718/2024). I also secured permission from the five participants, who each signed a consent and declaration form. These forms were emailed to the participants, signed, and returned. Participants were fully informed beforehand about the study’s purpose, details, and intentions. To ensure confidentiality, participants’ identities were protected by assigning them numerical identifiers.

4.11.3 Anonymity and Confidentiality

Participants in this research study were assured that their information would remain confidential, and their identities would be protected. They were also informed about how their provided information would be made public.

4.11.4 Non-maleficence

Bertram and Christiansen (2014, p.66) state that "non-maleficence means do no harm". This means that the study would not subject participants to mental, emotional and physical harm. To ensure this, participants in my study were allowed to withdraw from the study at any time if they felt awkward, without providing any reasons.

4.12 Chapter conclusion

This chapter presented a comprehensive overview of the research methodology used in this study, including data generation methods and participant selection. Additionally, it discussed the ethical principles to be adhered to by the researcher, covering aspects of non-maleficence, beneficence, and the study's limitations. The next chapter will present the research findings, organized into themes identified by the researcher during analysis process.

Chapter 5:

Data representation, analysis, and discussion of findings

5.1 Introduction

In the previous chapter, I discussed the methodological framework for this research study. The purpose of this study was to explore the experiences of adults who had been diagnosed with ADHD in childhood but who were not given the appropriate and adequate treatment. This exploration provided insights into the understanding of what ADHD is, the challenges of living with untreated childhood ADHD, how it affected the participants' life holistically and the benefits of timely and adequate treatment. The reasons as to why treatment was never sought will also be explored in this chapter.

The research questions for this study were: (1) What are the effects of untreated childhood attention deficit hyperactivity disorder (ADHD) in adulthood? (2) What are the benefits of treating ADHD early? (3) What is the relationship between untreated childhood ADHD and the prevalence of substance abuse in adulthood? This chapter presents data generated from two sources, namely the participants' reflective journals and interviews conducted with them. With reference to the data, themes were developed through the analysis of data. The responses (data) of the participants are cited as evidence, and the discussion of the findings are presented, juxtaposed with the research literature for deeper insight.

5.2 Data Analysis

5.2.1 Data analysis steps

In my thesis, I conducted telephonic interviews with participants, recording their experiences with ADHD. The audio recordings were transcribed verbatim to ensure accurate representation of their narratives. Following transcription, I performed data reduction by extracting key information relevant to my research questions, filtering out irrelevant content. I then engaged in thematic analysis, coding the transcripts to identify recurring themes and patterns in the participants' responses. This involved both inductive and deductive approaches to organize the data effectively. I grouped initial codes into broader themes, refining them through constant comparison of participants' experiences. To validate my findings, I used member checking, sharing preliminary themes with participants for their feedback. This structured approach allowed me to derive meaningful conclusions and ensured the integrity of

the analysis while highlighting ethical considerations in accurately representing participants' voices.

5.2.2 Themes emerging from the Data analysis

Below are three themes that emerged from self-reflective journals and semi-structured interviews of the participants.

Themes	Questions / prompts from the production tools
<p><i>Theme 1: The effects of untreated childhood ADHD into adulthood.</i></p>	<ul style="list-style-type: none"> • What is your understanding of ADHD? • How would you describe your experience as a child suffering with ADHD? • Describe your experiences as a child when you were dealing with untreated ADHD. • In your opinion, how did your childhood untreated ADHD contribute to the challenges you are experiencing in your adult life?
<p><i>Theme 2: The benefits of treating ADHD early.</i></p>	<ul style="list-style-type: none"> • Do you believe that treatment would have curbed some of your symptoms? Why do you believe that? • What would have been the benefits of treating your diagnoses early? • What would treatment of ADHD have prevented later in adult life?
<p><i>Theme3: The contemporary understanding of ADHD based on their individual experience.</i></p>	<ul style="list-style-type: none"> • What is your understanding of ADHD?

Figure:5.2 Themes emerging from the data analysis

5.3 Findings and Analysis

5.3.1 Participants' understanding of attention deficit hyperactivity disorder.

The researcher was curious to find out the understanding that each participant had about attention deficit hyperactivity disorder (ADHD) as each experience was independent of one other. The researcher asked the participants to reflect on their understanding of ADHD and write it down in their reflective journals.

In this study, five participants revealed their understanding of ADHD as:

Participant 1: "For me, ADHD feels like trying to watch TV with someone constantly flipping channels. It's hard to concentrate because my mind wanders so easily."

ADHD means my brain is constantly buzzing with ideas, but it's like there is no filter to prioritize them. I find it hard to stay focused on one task, jumping from one thing to the another, which makes finishing projects a real challenge. It's both exhausting and exhilarating because my mind never stops."

Participant 2: "For me ADHD is the inability to concentrate and perform tasks that I find tedious. It is the inability to complete tasks that I do not find stimulating and rewarding."

Participant 3: "For me, ADHD is like my mind is a web browser with 100 tabs open all the time. There are always distractions, and it's a constant struggle to stay focusses on a single task. Simple tasks can feel overwhelming because I am constantly interrupted by my own thoughts."

Participant 4: "ADHD makes it feel like there is no buffer between my thoughts and actions. I often speak or act without thinking, which can lead to embarrassing or problematic situations."

Participant 5: "Living with ADHD means my day is a constant struggle between inattention and impulsivity. I'll start a task and get distracted easily, then impulsively jump to another activity without finishing the first. It feels like my brain is always in overdrive, making it hard to accomplish anything efficiently."

The responses above reveal that the participants do have a conceptual understanding of the clinical definition of attention deficit hyperactivity disorder. These responses echo the same understanding as the National Institute of Mental Health (2023) who define ADHD as an ongoing pattern of inattention and/or hyperactivity-impulsivity that interferes with

functioning or development. People with ADHD experience on going patterns of the following types of symptoms: inattention, hyperactivity, and impulsivity. Three out of the five participants expressed similarity in terms of how their minds function. In various descriptive ways they mentioned how their minds are constantly in overdrive and how they experience difficulty in staying focused on one task. According to Selikowitz (2012), children with ADHD cannot concentrate with the same ease as other children of the same age. He supported this by stating that the attentional mechanisms in the brains of those who suffered with ADHD are inefficient. This means that they experience great challenges when it comes to concentrating on tedious tasks. Participant two referred to the inability to focus on any task he found tedious.

It is interesting to note that the first known description of a disorder resembling ADHD was provided by Sir Alexander Crichton (1798, cited in Cadell, 2008). A chapter in one of his books titled "On Attention and its Diseases", is particularly relevant to this topic. Crichton described inattention as: "when any object of external sense, or thought, occupies the mind to such an extent that a person does not clearly perceive any other object, he is said to attend to it" (Crichton, 1798, p. 12). Crichton highlights that the intensity of healthy attention can vary within normal range both among different individuals and within the same individual at different times. He further elaborated by proposing that distraction of attention is not necessarily pathological. Aspects like mental stimuli, volition, or education can dominantly influence healthy attention. In this short description of the alteration of attention many aspects described by Crichton align to the DSM-IV-TR criteria of ADHD. Crichton characterizes the disorder as 'the incapacity of attending with a necessary degree of constancy to any one object,' this aligns to the symptoms within criterion A1 of inattention. Inattention is explained as 'difficulty sustaining attention in tasks or play activities' (American Psychiatric Association, 2000). Crichton also notes that 'faculty is incessantly withdrawn from one impression to another', which speaks to another symptom of the DSM-IV-TR. This symptom states that one is often easily distracted by extraneous stimuli (American Psychiatric Association, 2000).

In addition to the above, Crichton (cited in Cadell, 2008) deduced that this respective disorder 'renders him incapable of attending with constancy to any one object of education.'

The idea that ADHD is a childhood disorder and that affected children 'grow out of it' was prevalent for many years. In recent research, studies have shown that about 50% of children

diagnosed with ADHD continue to exhibit symptoms into adulthood (Okie, 2006; Arolt, 2008). The above research suggests that the existence and prevalence of ADHD is existent from decades ago. Although it may not have the same naming convention it has now, the idea or concept was identified many years ago.

The reason I have included research on ADHD going as far back as 1798 is to highlight the idea that this phenomenon has been historically experienced and noted but did not have the recognition, refinement, and naming convention it does today. As more and more people showed the dominant traits mentioned above, more research was done in the field to create a set criterion used to draw up a diagnosis.

These reflective journals written by my participants were quite insightful and each participant offered a similar understanding of the disorder. Terms like “constantly flipping channels”, “hard to concentrate” (participant 1), “inability to concentrate” (participant 2), “like my mind is a web browser with 100 tabs open all the time” (participant 3), “feels like there is no buffer between my thoughts and actions” (participant 4) and “constant struggle between inattention and impulsivity”, “impulsivity to jump to another activity” (participant 5) all echo a very clear understanding of the symptoms of the disorder and how it affects certain brain functions. The fact that all five participants expressed the same symptoms suggests the commonality in the type and severity of ADHD experienced in all five participants. Having analyzed the data received through their journals, I believe that my data generated supports the clinical definition of Attention deficit hyperactivity disorder which is categorized by attention deficit, hyperactivity, and impulsivity.

The primary criteria for diagnosing ADHD are outlined in the *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition (DSM-5), published by the American Psychiatric Association. The DSM-5 criteria include:

1. **Inattention:** Six (or more) symptoms of inattention for children up to age 16, or five (or more) for adolescents 17 and older and adults; symptoms must have been present for at least 6 months to an extent that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities. Examples include:
 - Often fails to give close attention to details or makes careless mistakes.
 - Often has difficulty sustaining attention in tasks or play activities.

- Often does not seem to listen when spoken to directly (American Psychiatric Association,2013).
2. **Hyperactivity and Impulsivity:** Six (or more) symptoms for children up to age 16, or five (or more) for adolescents 17 and older and adults; symptoms must have been present for at least 6 months to an extent that is disruptive and inappropriate for the person's developmental level. Examples include:
 - Often fidgets with or taps hands or feet or squirms in seat.
 - Often leaves seat in situations when remaining seated is expected.
 - Often runs about or climbs in situations where it is not appropriate.
 3. Several inattentive or hyperactive-impulsive symptoms were present before age 12 years.
 4. Several symptoms are present in two or more settings (e.g., at home, school, or work; with friends or relatives; in other activities).
 5. There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning.
 6. The symptoms are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, or a personality disorder).

The above criteria speak directly to the experiences and symptoms displayed by all five participants. All participants mentioned how these symptoms presented itself in more than one setting affecting multiple aspects of their life. Having studied all these symptoms mentioned above, the data received from my participants by means of semi-structured interviews all support the clinical definition of ADHD and its presentation of symptoms.

The Biopsychosocial model was first conceptualised by George Engel in 1977, suggesting that to understand a person's medical condition it is not simply the biological factors to consider, but also the psychological and social factors (Gatchel, Peng, Peters, Fuchs, & Turk, 2007).

- Bio (physiological pathology)
- Psycho (thoughts emotions and behaviours such as psychological distress, fear/avoidance beliefs, current coping methods and attribution)
- Social (socio-economical, socio-environmental, and cultural factors such as work issues, family circumstances and benefits/economics)

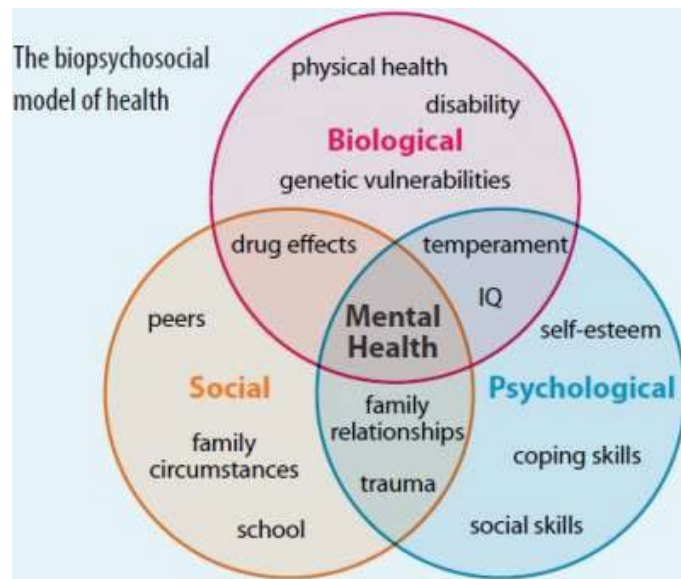


Figure 5.3 The Biopsychosocial Model

(<http://savvywillingandable.wordpress.com/2013/09/25/the-biopsychosocial-model-explained/>)

Using the lens of the Biopsychosocial model to examine the data, it is evident that the responses above speak strongly to the biological aspect of the model. Neurobiology explains the differences in brain structure and function, primarily in areas like the prefrontal cortex, which is responsible for executive functions that have been associated with ADHD. Neurotransmitter imbalances, especially involving norepinephrine and dopamine also play a crucial role. This is perhaps the leaning towards the reason as to why five out of five of the participants mentioned the inability to focus and concentrate for periods of time.

The Psychological aspect is second tenet which I feel relates strongly to the responses shared by the five participants. With respect to cognitive functioning, individuals with ADHD often experience challenges with attention, working memory, and as mentioned earlier executive functioning. This has an impact on their ability to organize, plan and complete tasks. All five participants could relate to the above as they each mentioned their inability to complete tasks and had difficulty prioritizing important items.

These responses were collated during my semi-structured interviews. All conversations happened organically, and my participants had a cathartic experience while relating their narratives to me. Participants mentioned the relief they experienced being able to talk about their experiences and their felt differences openly. Based on the conversations, the responses below I found were important to add to the findings of this research.

5.3.2 Participants' understanding of the effects of untreated childhood ADHD into adulthood.

From the responses below two common themes emerge from the data.

Participant 1: "Not knowing I had ADHD as a child meant I struggled through school and college. I couldn't focus on studying, so my grades suffered. As an adult, I find it hard to stay organized at work. I am always missing deadlines and forgetting tasks, which makes me feel inadequate. It's frustrating because I knew I am capable, but my ADHD makes it difficult to prove myself."

Participant 2: "Not having my ADHD treated led to me start using other means to 'calm my racing mind'. I started smoking weed recreationally and then realized my thought processes became numb. So, I started doing it more often. Eventually weed was not enough and I went onto the harder substances. I feel like had I stuck the course and had my ADHD treated correctly, I would have had my ADHD treated professionally and I would have not found other ways to numb my mind."

Participant 3: "Untreated ADHD affected my career in a massive way. I made impulsive decisions that hurt my reputation. It wasn't until later in life that I sought treatment. Now, I am stable, but I still regret not addressing it earlier. I could have been more successful."

Participant 4: "Fast forward to my twenties, and I was using substances regularly to cope with the stress of adult life. It started with weekends, then became a daily habit. I didn't realize it at the time, but I was self-medicating to quiet the constant chatter in my head. It wasn't until I hit rock bottom- lost my job, my relationships fell apart- that I sought help."

Participant 5: "Growing up undiagnosed with ADHD was tough. I was constantly restless and impulsive. I had trouble keeping friends and often got into trouble at school. As an adult, I still struggle with impulsivity. I have had several jobs where I've been let go because I couldn't follow through on projects. My relationships are strained because I say things without thinking. I wish I had gotten help sooner"

According to the participants, the effects of untreated ADHD caused: 1) Struggling academically and professionally (mentioned by participants one, three and five). 2) The misuse of substances to calm the mind (mentioned by participant two and four).

ADHD affects approximately 5-10% of children worldwide and can persist into adulthood in about 50- 60% of cases (Barkley, 2015). Despite its prevalence, many children with ADHD

do not receive adequate treatment. Below are a few long-term outcomes of untreated childhood ADHD and the implications it has on adult functioning.

Mental health outcomes: Untreated childhood ADHD is strongly associated with various mental health issues in adulthood. Studies have shown that individuals with untreated ADHD are at a higher risk of developing anxiety disorders, depression, and substance use disorders (Biederman et al., 2006). Additionally, the persistent symptoms of ADHD can contribute to low self-esteem and increased stress levels.

Occupational and educational impacts: Adults with a history of untreated ADHD often experience great challenges in their educational and occupational careers. Research indicates that they are more likely to have lower academic achievement, higher drop out rates, and difficulties maintaining steady employment (Barkley, Fischer, Smallish, & Fletcher, 2006). These challenges are often compounded by organizational difficulties, poor time management, and impaired executive functioning (Kessler et al., 2005).

Social and interpersonal relationships: The social implications of untreated childhood ADHD can be profound. Adults with ADHD frequently report difficulties in maintaining stable relationships, both personally and professionally (Weiss & Murray, 2003). Impulsivity and inattention can lead to conflicts and misunderstandings, which strain relationships over time. Moreover, untreated ADHD can affect social skills and the ability to interpret social cues.

Risk taking behaviours and legal issues: According to Barkley, Murphy, and Fischer (2008), impulsivity is a core symptom of ADHD and is linked to higher rates of risk-taking behaviours in adulthood. This may include reckless driving, substance abuse and other criminal activities.

Based on the responses provided by the participants, it is evident that children who go through life with untreated childhood ADHD suffered significantly in various facets of their lives. The researcher was able to establish through conversation with the participants that they suffered in various ways due to not receiving the necessary interventions. Some participants mentioned how disadvantaged they were in school (academically) due to their inability to focus for extended periods of time. Other participants mentioned how socially isolated they were and how their lack of impulse control hindered their social competence. Due to their 'racing minds' and inability to control their thoughts, some developed other co-morbidities as a result of not addressing the actual problem. Anxiety, depression, and

substance abuse were all a result of untreated childhood ADHD. The above data supports research in the academic literature that untreated ADHD affects an individual in many areas of their life (Kessler et al., 2005; Barkley, Fischer, Smallish, & Fletcher, 2006; Biederman et al., 2006). These areas include academically, occupationally and socially to name a few. All my participants have expressed their difficulty in maintaining concentration, their inability to have impulse control and challenges when it comes to social settings. The studies cited by Kessler et al. (2005), Barkley, Fischer, Smallish, & Fletcher, (2006) & Biederman et al., (2006) above outline the symptoms and manifestation of ADHD that my participants describe as part of their experiences. Therefore, the data generated strongly supports the claims made by Kessler et al. (2005), Barkley, Fischer, Smallish, & Fletcher, (2006) & Biederman et al., (2006).

Using the Biopsychosocial model as a point of reference, I suggest that the responses shared by the participants are indicative of psychological factors within the model. With reference to emotional regulation, which is difficulty in managing emotions, including higher levels of frustration, impulsiveness, and mood swings, the responses above echo the same sentiments. The inability to self-regulate would also have an adverse impact on their self-esteem and as result develop mal-adaptive coping strategies. Participants two and four both mentioned their dependence on substances to help them cope with their ADHD.

According to Bronfenbrenner's ecological model, peers who form part of the microsystem play a pivotal role in social development. Positive peer engagements can improve self-esteem and social skills, while negative interactions can worsen the condition. Based on the above responses from participants, it is evident that children with ADHD suffer with maintaining relationships and because of that develop a low self-esteem. As children your confidence is gained through your validation from your social circles, and individuals suffering with ADHD battle with keeping a social circle.

5.3.3 Benefits of treating ADHD early

The study focuses on the impact of untreated childhood ADHD and data revealed the importance of early intervention.

Participant 1: “Once I received treatment, accommodations and support allowed me to maintain good grades and be a functioning member of society. If I had treated my ADHD early, it would have not only assisted me academically but would have given me the confidence to pursue my dreams.”

Participant 3: “So I started seeing a therapist and we also tried medication. The combination really helped me. The therapist taught me strategies to stay focused and organized, and the medication helped calm my mind so I could use those strategies. I started to do better at work and felt more confident. It was a relief to know that there were ways to manage my ADHD and that I wasn’t alone in it.”

Participant 5: “I started taking Ritalin, and it was like night and day. I could finally sit through a meeting without feeling like I was going to jump out of my seat. The therapy sessions were really helpful too. My parents and partner learned how to support me better, and I felt more understood at home. It wasn’t just me dealing with ADHD anymore—it was all of us working together.”

The data above indicates two common themes that are prominent among the participants. The benefits of treating ADHD early include:

1. **Gaining Confidence:** Once treated and therapy had started the participants did not feel alone and were able to gain their confidence back- mentioned by participants one, three and five.
2. **Improved Academic Performance:** They were able to perform better academically mentioned by participants one, three and five.

Research has shown that there are many benefits to treating ADHD early.

The above-mentioned response speaks directly to the study of Pelham et al. (2008) that show the link between early treatment and the improvement or academic excellence. Children who receive treatment, such as behavioural therapy and/or medication, demonstrate better focus in the classroom, improved organizational skills, and enhance academic performance compared to untreated peers (Pelham et al., 2008).

The benefit of early treatment seems to be a theme among the participants. Most of the participants expressed their faith in treatment after they have witnessed the results and better quality of life they are leading after receiving the appropriate treatment.

Participant 2 mentioned ‘*If I had treated my ADHD early, it would have not only have assisted me academically but would have given me the confidence to pursue my dreams.*’

Using the perspective of psychological and social factors of the Biopsychosocial model into account, the above statement suggests that the participant’s inability to manage and self-

regulate emotions led to the loss of confidence and development of low self-esteem. Participants three and five reinforce the positive impact of early intervention as they stated post-treatment, they were happier, more confident functioning members of society.

While there was an acknowledgment from the participants about the positive impact of treatment on their ADHD management, the literature also indicates that there are several negative consequences of underdiagnosis and lack of treatment and underscore the critical importance of early diagnosis and effective treatment strategies in managing ADHD and reducing its wide-ranging impacts on individuals and society.

Psychological, Financial, Academic, and Social Burden: Untreated ADHD can lead to significant psychological, financial, academic, and social burdens for individuals and communities (Shattell et al., 2008). While treatment does not completely normalize the developmental trajectory of those with ADHD, untreated individuals generally experience poorer long-term outcomes compared to treated individuals (Shaw et al., 2012). Failure to diagnose ADHD during childhood increases the risk of later mental health issues beyond academic impairment. It also impairs social and occupational functioning and elevates the likelihood of developing comorbid disorders such as anxiety, depression, personality disorders, antisocial behaviours, and substance use disorders. Several mechanisms may link undiagnosed ADHD to these vulnerabilities (Ginsberg et al., 2014).

Academic Achievement: Research indicates that children treated with stimulants for ADHD show academic improvements compared to those untreated (Ginsberg et al., 2014).

Family/Relationship: Untreated ADHD symptoms like hyperactivity can lead to long-term social and peer problems, strained family dynamics, and difficulties in intimate relationships (Shattell et al., 2008). Adults with untreated ADHD may struggle with poor listening skills, low frustration tolerance, and internalizing problems, contributing to diminished self-esteem. Parental ADHD correlates with increased family conflict and negative parent–child interactions due to emotional and impulse control challenges (Ginsberg et al., 2014). Childhood ADHD has also been linked to intimate partner violence in adulthood.

Substance/Alcohol Abuse: There is a strong association between ADHD and substance/alcohol abuse, with untreated ADHD increasing the risk of early substance use and addiction across the lifespan (Shattell et al., 2008).

Financial/Employment: Untreated ADHD can lead to financial and employment difficulties, including reduced work efficiency, instability in job roles, and lower incomes (Ginsberg et al., 2014). Individuals with ADHD tend to have more sick days and reduced work productivity compared to their peers.

Criminal Behaviour: Untreated ADHD is associated with higher rates of criminality, imprisonment, traffic violations, and motor vehicle accidents (Ginsberg et al., 2014).

Comorbidity: Children with untreated ADHD are at increased risk for developing other psychiatric disorders such as oppositional defiant disorder and conduct disorder, which may lead to antisocial behaviours.

Mortality: Recent studies highlight an increased mortality rate among individuals with ADHD, particularly when diagnosed in adulthood. Early diagnosis and treatment are crucial in mitigating this risk, as ADHD diagnosis during childhood significantly affects mortality rates and suicide risk (Shattell et al., 2008).

The above research describes all the various manifestations that arise when ADHD is not treated at the early onset. The ideas suggested above also concur with the responses from the participants who described the benefits they experienced with receiving the appropriate treatment later in life. Many participants indicated that their childhood and life experiences would have been better had they have received appropriate treatment at the early onset. However, as much as there is adequate research on the benefits of early treatment, some research suggests that it not always yielded significant advantages.

The Multimodal Treatment of ADHD (MAT) is a key study which followed children treated with ADHD over several years. This study found that while initial benefits from medication and behavioural interventions were observed, these effects withered over time (DuPaul et al., 2011). At an 8-year follow up, there was no significant difference in symptom improvement between those who received early treatment and those who did not. This information suggests that the long-term benefits of early intervention may be limited (Peterson et al., 2024).

Additionally, some researchers argue that early treatment, with specific reference to medication, may not address the underlying issues that contribute to ADHD symptoms.

DuPaul et al. (2011) highlighted the importance of comprehensive approaches that include behavioural interventions and environmental accommodations, rather than solely relying to pharmacological drugs.

There is also a concern that early treatment might lead to over-reliance on medication without sufficiently addressing the child's holistic developmental needs. Critics highlight that while medication can aid in focus and behaviour for a short period of time, it does not always translate to improved academic or social outcomes in the long term (Peterson et al., 2024) (DuPaul et al., 2011).

In summary, while early treatment for ADHD can provide some immediate relief, its long-term efficacy and impact on overall life outcomes remain debatable. It is crucial to consider a multifaceted approach that touches on behavioural and educational interventions alongside, or instead of, medication (Peterson et al., 2024; DuPaul et al., 2011).

It is interesting to acknowledge the flipside of treating ADHD early. There is a large amount of information regarding early treatment, but not much awareness is created on the negative aspect of early intervention. All my participants highlighted the benefit they saw in treatment and what a difference it could have made had they received early intervention, but nobody had the experience on the contrary.

The data generated from my participants all support the literature by (Shattell et al., 2008; Shaw et al., 2012; Ginsberg et al., 2014) on early intervention. The early interventions can assist the child in terms of their academic and social life. As well as prevent them from developing comorbidities later in life, or experience challenges financially and emotionally as they get older. Participant 2 mentioned how he depended so substances to numb his mind, as a result he developed dependency on the drugs and later became an addict. This statement strongly supports the literature by (Shattell et al., 2008; Shaw et al., 2012; Ginsberg et al., 2014) that states early intervention can combat many other comorbidities and social issues.

When applying the Biopsychosocial model to the negative impact that early treatment has on ADHD patients, the below have been raised:

Under the umbrella of biological factors:

1. Medication and neurodevelopment: while medication, such as stimulants, is effective in managing ADHD symptoms for a short period of time, some studies suggest that these benefits do not persist long-term. The Multimodal treatment of ADHD study found that after some years, the differences in symptom control between medicated and non-medicated children diminish. This raised flags about the sustained biological advantages of early pharmacological intervention (Peterson et al., 2024).
2. Brain development: early treatment with medication might not significantly alter the long-term trajectory of brain development. There is limited evidence to suggest that early intervention with medication produces lasting changes in brain structure or function that would translate to long-term benefits (Trane & Willcut, 2023).

Under the umbrella of psychological factors:

1. While behavioural intervention is crucial, their effectiveness can vary. Early intervention programs may lead to improvements in behaviour and academic performance initially, but these gains may not be sustained without continuous and consistent support (Wolraich et al., 2019). Long term studies indicate that without ongoing intervention, the benefits of early behavioural treatment might fade.
2. Self-efficacy and coping skills: early treatment might not sufficiently address the developmental of self-efficacy and coping skills in children with ADHD. These psychological factors are crucial for long-term success and may need interventions that are tailored and adjusted over time, rather than early, intensive treatment alone.

Under the umbrella of social factors:

1. Family and peer relationships: according to Wolraich et al. (2019) social dynamics play a crucial role in the development and management of ADHD. Early treatment may improve family and peer relationships temporarily, but without consistent support, these relationships can deteriorate. The initial improvements seen in social interventions may not be maintained, suggesting that early intervention alone is not adequate enough. This is highlighted in the statement made by one of the participants below.
2. Educational environment: the support provided in educational setting can significantly impact the effectiveness of early treatment. Children with ADHD require ongoing adjustments and accommodations in their learning environments. Early treatment

might not lead to lasting improvements in academic performance if these social supports are not sustained throughout their academic career (Wolraich et al., 2019).

From a biopsychosocial perspective, the lack of long-term benefits from early ADHD treatment can be attributed to the complexity of ADHD as a condition that is influenced by multiple interacting factors. Biological interventions alone, such as medication, may not provide sustained benefits without continuous psychological and social support. Behavioural and educational interventions need to be adaptive and ongoing to address the evolving needs of children with ADHD. Therefore, a more holistic and sustained approach, rather than early intensive treatment alone, is necessary for long-term success in managing ADHD.

5.3.4 Reasons behind why the diagnosis was never acknowledged or treatment not sought

Participant 3: “There was a stigma attached to mental health issues in my community. Admitting you had a problem was seen as weakness. Even though I displayed signs of ADHD, my parents were too embarrassed to seek help. My mother thought that if she hit me into order, or incentivized my studying, I would grow out of this phase. It took a long time for me to overcome that stigma and seek the help I needed as an adult.”

Participant 4: “My family could not afford medical care and seeking help was not an option. I struggled through life not knowing what was wrong with me. Once I started earning, I sought help and got the proper treatment.”

Participant 5: “I grew up in a time where ADHD was not widely recognized. My parents thought I was just a hyper kid who needed a firm hand. My parents were supportive but did not know the impact ADHD could have on my life. It was only when I became an adult and learnt about mental health issues, did I realize I had been dealing with ADHD all my life.”

From the responses above there are a few prominent themes highlighted.

The personal limiting reasons stated by the participants include:

1. Some parents believed their child needed a “firmer hand” to start concentrating and completing tasks - mentioned by participants three and five;
2. Some parents were worried about the stigma attached to being diagnosed and taking medication for it- mentioned by participant three;
3. Some parents had financial limitations and could not afforded the suitable treatment- mentioned by participant four;
4. There was a lack of awareness and understanding of the disorder which caused the participant to go untreated - mentioned by participant five.

Reviewing the responses from the participants, it is apparent that there are several reasons as to why children don't get the appropriate treatment. Participant three mentioned the stigma attached to seeking help for ADHD. According to Creyos (2024), ADHD stigma involves negative stereotypes about the characteristics of a person with ADHD. These depictions are often inaccurate and largely dramatized. They may also go hand in hand with negative ideas about how to respond to someone with ADHD, such as being exclusionary or punitive which can poorly impact the victim in ways such as emotionally, mentally, and socially.

According to Creyos (2024), here are a few different types of ADHD stigma to be aware of:

1. Public stigma or socially perceived stigma: external sources of stigma channeled at a person with ADHD. This could include bias or discrimination in school and the workplace. An example of this would include saying hurtful words, exclusion and mocking.
2. Courtesy stigma: external sources of stigma hurled at people who are associated with a person with ADHD. An example of this would be a parent being told their child's condition was “caused by their parenting.”
3. Internalized stigma: Creyos (2024) suggests that this form of stigma is internal and is when a person with ADHD directs negative feelings towards themselves.

In my experience I found that many families come from larger communities and due to stigmatization, parents avoid seeking help and acknowledging the problem. Various forms of stigma can be directed toward the child with ADHD and subsequently, the parents. Parents often find it challenging enough to deal with the child who is ‘problematic’ or ‘troublesome’ that they steer away from any form of external stigmatization.

The second reason highlighted is financial limitations. Health care is quite costly and not many people can afford it. With an illness that affects behaviour, many parents are of the misconception that they can ‘straighten’ the behaviour out by being a bit firmer with the child. As a result, the behaviour is modified, and the problem is not addressed. The third reason highlighted by my participants, is that ADHD was previously not recognized as something treatable. Parents and teachers were under the assumption that the child displaying the symptoms of inattention and hyperactivity just needed more supervision.

Creyos (2024) identified a few common misconceptions about ADHD. These include:

- It is not a real disorder.
- It is a result of laziness or lack of discipline.
- It is a result of too much screen time.
- It only affects boys or is not as severe in girls.
- It only shows up as hyperactivity, not as inattention.

Participant five mentioned that treatment was not an option, as ADHD was not widely understood and recognized during that era. Due to parents and teachers not having much knowledge or clinical knowledge on the concept, the method of handling a child with ADHD was not tactful or knowledgeable. Participant five mentioned *“My parents thought I was just a hyper kid who needed a firmer hand.”*

Based on the responses above it is quite evident that the data generated in this study, supports the literature by Creyos (2024) that states the few misconceptions about ADHD as described above. Stigma appeared to be a prominent reason why people do not opt for appropriate treatment. Some participants mentioned the stigma attached, others mentioned financial limitations, lack of awareness and ignorance in understanding the condition. The data generated strongly supports that there are reasons that prevent seeking treatment.

Based on the above responses shared and through the lens of the Biopsychosocial model, social factors have played a major role in the lack of treatment received by the participants. The family environment can significantly influence the management and impact of ADHD (Barkley, 2014). Things like family dynamics, parenting styles, support and understanding within the family can help the individual in their management of self. However, considering the responses articulated it is evident that the family environment as a social factor did not add value to the treatment of the ADHD participants. In addition, academic environments that

lack appropriate accommodations and understanding of the condition can exacerbate the challenges faced by individuals suffering with ADHD (Hinshaw, 2020). None of the participants spoke about how their school or academic environment promoted their development and accommodated their condition.

ADHD is underdiagnosed in many European countries and the process of accessing care and diagnosis is complex and variable (French et al., 2020). Primary care is concerned with local health care practitioners. According to French et al, (2020), there is a lack of identification from primary care and the below stated themes are indicative of why.

1. No identification in primary care: General practitioners reported that they typically did not identify ADHD symptoms when dealing with patient issues. In a study, of 10 GPs, only one mentioned diagnosing ADHD in about 10% of the cases while others have mentioned they have not identified it in a patient. According to French et al., (2020) it was more common for patients to bring up ADHD concerns with their GPs, often promoted by personal reflections, leading to what was termed a ‘chance diagnosis’. Third party identification was often initiated by schools or through diagnosis of a close family member.
2. Patient-led approaches: these approaches impact both the initiation and process of referrals. Since GPs typically do not lead this process, patient according to French et al., (2020) reported that they had to request a referral and initiate an ADHD inquiry themselves. They also had to persistently push for a diagnosis. Patients felt that determination and persistence were crucial in navigating the process, believing that without their continuous efforts, they would not have received a diagnosis.
3. Lack of clear diagnosis Pathway and services: diagnosis was heavily influenced by available services. A good service was characterized by clear pathways, facilitated communication, and straightforward management processes. However, most GPs mentioned pathways, complicating the referral, diagnosis, and management processes.

The above article provides further reasons as to why patients with ADHD do not receive the appropriate and adequate treatment they need. It was interesting to note the GPs take on diagnosis and access to treatment.

According to Ahmed et al. (2014) there are three major themes regarding parents’ ADHD related information that potentially affects the decision to treat their child.

The first theme is *parental ADHD knowledge*. Before their children were diagnosed, most parents had limited knowledge about ADHD. Many had only heard negative portrayals of ADHD medications like methylphenidate (Ritalin) through media. Some parents only become aware of ADHD through family and friends who suggested their child might have the condition. Some parents, following their child's diagnosis, sought out more information to feel confident. However, some found that the information given was confusing and overwhelming, which led them (parents) to make poor treatment decisions.

The second theme is *parental information sources*. Parents found that most of their information received from the school, friends and people had a child with the same diagnosis. The information received regarding the disorder and treatment was very vague and often verbally done. This became confusing for parents as they did not have sources to refer to. Information sources were a big need as they offered parents some sort of confidence in making the decision to treat or not.

Lastly, the third theme described was *parental information needs*. According to Ahmed et al., (2014) parents desired substantial information on the genetic make-up of this disorder and real-life experiences of parents who had children affected by this disorder. This information was hard to find and inaccessible to parents which resulted in the lack of confidence to treat their child.

Having read the reasons about why parents do not seek treatment for their diagnosed children (Ahmed et al., 2014), it is evident that the data generated supports the themes that treatment is not given due to lack of parental knowledge of ADHD, misinformed parental information sources and lastly, the parental information needs were not met, all of which result in lack of treatment being sought. The above themes have been highlighted by the participants as reasons why they have not received adequate treatment or had their diagnosis treated with importance and acknowledgment.

Bronfenbrenner's Ecological Systems Theory is useful in understanding how a person suffering from ADHD is impacted by multiple levels of environmental systems on their behaviour, development, and well-being (Chronis-Tuscano & Stein, 2020).

The microsystem includes the immediate environments that a person interacts with directly, such as family, school, and peers. Family dynamics and parental involvement are crucial (Bronfenbrenner, 1979). Supportive and understanding family members provide the required emotional support. Inconsistent discipline or a lack of understanding can exacerbate ADHD

symptoms. The classroom environment, teacher attitudes and teaching styles significantly impact a child suffering with ADHD. Based on the responses received above, none of the five participants mentioned teacher accommodation with respect to their condition.

Peers also form part of the microsystem, and they play a very critical role in the social development of the individual. Children who suffer from ADHD exposed to positive peer interactions, can improve their self-esteem and enhance their social skills (Bronfenbrenner, 1979). Judging from the responses received from my participants, they did not receive any positive regard from their peers and in fact, one participant mentioned being labelled the “class clown”. This would have certainly affected the self-esteem of the participants negatively.

The mesosystem comprises of the interactions between two different microsystems. In the case of many of the participants the mesosystem would have constituted of the parent teacher collaboration (Chronis-Tuscano & Stein, 2020). Within this mesosystem, effective communication and collaboration between parent and teachers can ensure that strategies used within the schooling environment and home are in support of each other. Collaboration between the two systems can essentially help the individual manage their symptoms (Bronfenbrenner, 1979). From the responses received from the participants, there is no evidence that there has been any sort of collaboration between these components of the mesosystem that could have enhanced their development and aided their symptom management.

The data from participant three and five speaks to elements of the macrosystem (Chronis-Tuscano & Stein, 2020).

The macrosystem talks to the larger cultural and societal context. This includes societal beliefs, norms, and policies. With reference to the cultural attitudes, there is much stigma surrounding ADHD and this has a negative impact on the treatment that is offered. The above participants mentioned that they did not receive treatment or acknowledgment of the diagnosis due to the stigma attached to the labeling of it (Bronfenbrenner, 1979).

5.4 Narratives from the data

Narrative research is a qualitative method that focuses on the stories and personal encounters of individuals. This approach is used to understand how people make meaning of their experiences and construct their individualities (Creswell, 2013). Narratives can provide deep insights into complex phenomena by capturing the experiences and nuances of lived

experiences. The following narrative was written by the researcher of this study, which is based on the responses from the data production process. The narrative comprehensively unpacks the lived experiences of adults who went through their childhood suffering with untreated ADHD (Creswell, 2013). It touches on the various reasons presented as to why treatment was never sought and how through their childhood experiences the participants now strongly believe in early intervention.

After concluding interviews with my five participants, it is understood that they all possess a thorough understanding of the conceptual aspects of ADHD. Each participant had been diagnosed with ADHD in childhood, yet their diagnosis was often overlooked due to several reasons: stigma, financial limitations, and a lack of awareness about the specifications of the disorder. Some parents chose not to pursue treatment, believing that a firmer hand or stricter parenting styles could correct their children's behaviour.

The impact of untreated ADHD on these individuals was significant and multifaceted. Academically they struggled to meet expectations and often underperformed. Emotionally, they faced challenges with self-esteem, feeling inadequate or different from their peers. Their ability to maintain relationships also suffered, leading to difficulties in forming and sustaining connections. In some cases, participants turned to drugs and substance abuse as a means to gain control over their minds, seeking relief from the overwhelming symptoms of ADHD.

5.5 Conclusion

The data analysis showed that participants have a strong understanding of ADHD and its impact on their lives. All participants acknowledged how the lack of treatment negatively affected their development, with some highlighting the personal, social, and academic consequences. Most participants expressed support for early treatment, believing it could have prevented co-morbidities and behavioral issues linked to poorly managed ADHD. After interviewing the five participants, I gained a deeper understanding of the strong connection between early intervention and better ADHD management in adulthood. Several participants shared that their lives could have been much easier had they received appropriate treatment earlier.

Having conducted the interviews and read the existing literature on ADHD, the advantages of early treatment are vast. The advantages include, better academic performance, enhanced social skills, reduced behavioural problems, better self-esteem, prevention of secondary issues,

and medication management. Overall, a better quality of life. The advantages were highlighted in the responses presented by my participants where they explicitly mentioned the extent to which their lives had improved having sought treatment. Many participants touched on how their academic/work life improved. Some participants mentioned that they were able to gain their confidence back and others mentioned just an overall better quality of life post treatment. Some participants mentioned the ability to sustain relationships improved due to the better management of their condition.

While the data received from this study undoubtedly supports the idea of early intervention, there are several plausible reasons as to why early intervention can be a problem. The challenges associated with early intervention include misdiagnosis, side effects of medication, stigma and labelling, overreliance on medication, impact on family dynamic, cost, and the variation in response to medication.

In this research, only one participant mentioned that their ADHD contributed to an inability to manage stress, which eventually led to substance abuse. However, with only a single response in this regard, it is not sufficient to conclude that the data supports the existing literature on the relationship between untreated ADHD and substance abuse. Nonetheless, I believe that further research should be conducted on this topic, as the potential link is significant and warrants more detailed exploration in future studies.

Chapter 6:

Concluding Discussion and Implications

6.1 Introduction

The previous chapter presented, analyzed, and discussed the data for this study. Having analysed the data it is evident that the research questions and the aim of this study were achieved through interviews and reflective journals. This chapter presents the conclusions that have emerged from the findings.

6.2 Discussions on findings

6.2.1 Theme 1: ADHD sufferers are aware of their differences

The study revealed a consistent theme among adults who have lived with untreated childhood ADHD: they were all able to articulate a clear understanding of how their minds work and recognized that their cognitive processes and behaviours were different, and at times, peculiar when compared to others. This self-awareness extended to their daily experiences, where they could identify and describe the ways in which their symptoms manifested, often with a high degree of accuracy.

The participants' ability to vocalize their experiences aligns with a body of research indicating that adults with ADHD are often aware of their cognitive deficits and how these impact their daily lives. For example, Kouse et al. (2005) found that adults with ADHD frequently have a strong awareness of their difficulties, particularly in areas such as attention and executive functioning. This self-awareness allows them to recognize their challenges, even in structured environments where tasks require sustained focus and organization. Their ability to self-evaluate accurately, despite the challenges posed by ADHD, is a testament to their deep understanding of their condition.

Further supporting this, Kooij et al. (2008) demonstrated that adults with ADHD are generally capable of self-reporting their symptoms. This finding suggests that they not only recognize the differences in their cognitive processes but also understand how these differences set them apart from the normative experience. Their self-reports often reflect a nuanced awareness of how ADHD affects their ability to function in various aspects of life, from professional settings to personal relationships.

Moreover, this self-awareness often extends to an understanding of how untreated ADHD has shaped their life trajectories. Participants in the study frequently discussed the long-term impacts of their symptoms, including how these have influenced their educational and career outcomes, social interactions, and overall quality of life. This level of insight is significant, as it suggests that adults with untreated ADHD possess a detailed understanding of their condition, which could be leveraged in therapeutic settings to tailor interventions more effectively.

The ability of these individuals to articulate their experiences also underpins the importance of listening to and validating their perspectives in both clinical and research settings. Their firsthand accounts provide valuable insights into the lived experience of ADHD and highlight the need for more personalized approaches to treatment and support. By acknowledging their self-reported symptoms and experiences, healthcare providers can better address the unique challenges faced by adults with ADHD, particularly those who were not treated during childhood.

6.2.2 Theme 2: ADHD sufferers are of the belief that early intervention could have mitigated some long-term effects.

Another significant finding of this study was the participants' strong belief that if they had received treatment earlier—specifically during their childhood or shortly after their diagnosis—their ADHD symptoms could have been better managed, and the severity of their condition might have been significantly reduced. This belief is not only based on their personal reflections but is also supported by a substantial body of research.

For instance, Biederman et al. (1993) identified that adults diagnosed with ADHD often experience a range of significant psychiatric comorbidities, including anxiety, depression, and other mood disorders. These individuals also tend to suffer from cognitive impairments, particularly in areas related to executive functioning, as well as psychosocial difficulties that can affect their ability to maintain stable relationships and employment. Notably, Biederman's research emphasizes that adults who did not receive adequate treatment during their childhood tend to face more severe outcomes in adulthood, suggesting a direct correlation between early intervention and long-term well-being.

Participants in this study frequently reflected on how early treatment could have altered the course of their lives. They expressed that with appropriate intervention, they might have been able to avoid the development of comorbid conditions, such as anxiety and depression, which

are commonly seen in individuals with untreated ADHD. These co-occurring conditions not only exacerbate ADHD symptoms but also contribute to a decline in overall quality of life, creating a cycle of negative outcomes that become increasingly difficult to manage as one ages.

Moreover, early treatment is often linked to improved academic performance and better social relationships. According to Biederman et al. (1993), initiating treatment at an early stage can provide children with the necessary tools to succeed academically by enhancing their focus, organizational skills, and ability to follow through on tasks. These academic improvements, in turn, can lead to more positive self-esteem and better social interactions, as children with ADHD often struggle with peer relationships due to impulsivity and attention issues.

Supporting this, Safren et al. (2010) found that adults who were treated for ADHD during childhood tended to have better life outcomes compared to those who were untreated or under-treated. The study revealed that early and continuous treatment not only improved academic achievement but also contributed to greater job stability and healthier social relationships in adulthood. These findings highlight the critical role of early intervention in equipping individuals with ADHD with essential coping strategies and life skills that are necessary for long-term success.

Furthermore, Safren et al. emphasize that untreated ADHD can lead to a range of negative consequences that extend well into adulthood, including difficulties in maintaining employment, managing finances, and sustaining relationships. By addressing ADHD symptoms early on, individuals are more likely to develop the resilience and adaptive skills needed to navigate these challenges effectively, leading to an overall improvement in quality of life.

In summary, the belief among study participants that early treatment could have mitigated many of their challenges is strongly supported by existing research. Early intervention not only helps manage ADHD symptoms but also plays a crucial role in preventing the development of additional mental health issues and improving life outcomes across various domains. These findings underscore the importance of timely diagnosis and treatment in altering the trajectory of ADHD from childhood into adulthood.

6.2.3 Theme 3: The link between untreated childhood ADHD and the development of substance abuse in adulthood.

Another significant finding highlighted in this study is the link between untreated childhood ADHD and an increased risk of substance use and potential substance abuse later in life. This association has been substantiated by various studies, which point to the heightened vulnerability of individuals with untreated ADHD to engage in substance use, particularly when their condition is compounded by other behavioural issues.

Research conducted by Molina et al. (2003) found that untreated ADHD, especially when coupled with conduct problems, serves as a strong predictor of substance use during adolescence. The study suggests that children with untreated ADHD are more likely to engage in early experimentation with substances, a behaviour that often escalates into habitual use and, eventually, abuse. This increased propensity for substance use can be attributed to several factors inherent in ADHD, such as impulsivity, a tendency to seek novel experiences, and difficulties with delayed gratification—all of which can lead individuals to turn to substances as a coping mechanism or as a means of self-medication.

The link between ADHD and substance abuse is further reinforced by studies like that of Morian et al. (2003), which highlight how untreated behavioural issues associated with ADHD, such as impulsivity and poor decision-making, contribute significantly to substance-seeking behaviours. Early treatment of ADHD, therefore, is crucial in mitigating these risks by addressing the underlying behavioural issues before they manifest in substance use. By managing these symptoms through therapeutic interventions, children with ADHD can develop healthier coping strategies and decision-making skills, reducing their likelihood of turning to substances.

Similarly, Wilens et al. (2003) conducted a study that suggests treating ADHD with stimulant medications, such as methylphenidate or amphetamine-based therapies, may have a protective effect against the development of substance abuse. The study posits that these medications help manage the core symptoms of ADHD, including impulsivity, inattention, and hyperactivity, which are often linked to risky behaviours like substance use. By effectively controlling these symptoms, stimulant medications can reduce the likelihood of adolescents and young adults with ADHD engaging in substance abuse as a form of self-medication.

The findings from Wilens et al. (2003) also emphasize the importance of early and sustained treatment. They suggest that continuous management of ADHD symptoms from a young age can lead to more positive long-term outcomes, including a decreased risk of substance use disorders. This underscores the critical role that early intervention plays not only in managing the immediate symptoms of ADHD but also in preventing the development of additional, potentially life-altering issues, such as addiction.

Furthermore, these studies collectively highlight the broader implications of untreated ADHD. The increased risk of substance abuse in this population is not an isolated issue but part of a wider pattern of negative outcomes associated with untreated ADHD, including academic failure, social difficulties, and mental health challenges. Early and effective treatment can break this cycle, providing individuals with the tools they need to navigate adolescence and adulthood without resorting to substance use as a coping mechanism.

In conclusion, the link between untreated childhood ADHD and later substance use underscores the necessity of early diagnosis and intervention. By addressing ADHD symptoms and related behavioural issues early on, the risk of substance use, and abuse can be significantly reduced, leading to healthier and more stable life outcomes for those affected by ADHD.

Adults in this study often reflected on their childhood experiences, noting that the lack of treatment led to feelings of frustration, low self-esteem, and missed opportunities. Many believed that earlier intervention could have significantly altered their life trajectories, helping them to develop better coping strategies and achieve more stability in their personal and professional lives. Participants often described their childhood as a time of confusion and frustration, where their struggles were misunderstood or dismissed.

According to Klein et al. (2012), a longitudinal study was conducted to examine the long-term outcomes of individuals diagnosed with ADHD in childhood who did not receive treatment. The researchers followed participants for 33 years and found that those with untreated ADHD had poorer educational, occupational, and social outcomes compared to their treated counterparts. Many of the participants described persistent difficulties with attention, organization, and impulse control, which affected various aspects of their adult lives, including maintaining employment and relationships.

From gathering and analyzing the data, it appears that the experiences of untreated childhood ADHD amongst all participants are the same. It is evident based on the interviews that I have

had with my participants that they have a clear and comprehensive understanding of what ADHD is, and how different they are in relation to other non-ADHD individuals. Participants were able to highlight their struggles and identify their differences in relation to aspects like attention deficit and impulsivity.

Moreover, of participants that shared their sentiments regarding early intervention, almost all participants are of the belief that early treatment would have assisted and alleviated some of the challenges they experienced growing up. Many participants spoke about how early intervention would have assisted in the management of the ADHD symptoms presented. There is a link between untreated childhood ADHD and the later development of substance abuse. However, not many participants have had that experience to share, and I was not able to gather sufficient data to support that finding.

6.3 Implications

This study has provided individuals who struggled with ADHD in childhood and continue to face challenges in adulthood a cathartic opportunity to reflect on, explore, and engage with their experiences in living with this disorder.

Through listening to their experiences, I have found that more research needs to be conducted between the link of untreated childhood ADHD and the later development of substance abuse.

6.4 Recommendations

6.4.1 Advocate for Early Intervention

The importance of early diagnosis and treatment of ADHD in children need to be emphasized. The study's findings, supported by existing literature, suggest that early intervention could help combat long-term negative outcomes, such as comorbid mental health conditions and poor life outcomes. Perhaps educational campaigns should be conducted to raise awareness among parents, teachers, and healthcare providers about the benefits of early treatment.

6.4.2 Enhance ADHD Awareness and Education

An increase in awareness and education about ADHD symptoms and its impact of daily functioning among children is required. The participants in my study were aware of their symptoms but have expressed how they would have benefited from structured guidance on managing these symptoms. Perhaps educational programmes or resources should be developed to cater for different age groups. This will help individuals recognise ADHD symptoms early and seek the appropriate support.

6.4.3 Research on Substance Abuse Link

Further research must be done on the link between untreated childhood ADHD and substance abuse in adulthood drawing from the indication made in this study. There appears to be a link but the study lacked sufficient data to fully support this finding. I suggest longitudinal studies that follow children with ADHD into adulthood, examining the impact of untreated ADHD on substance use and other life outcomes.

6.4.4 Holistic Approach to ADHD Management

I advocate for a holistic approach to ADHD management that includes not only medication but also behavioural therapy, psychoeducation, and social support as participants from my study believed that early treatment could have significantly improved their life outcomes. I encourage healthcare providers to adopt a multidisciplinary approach when treating ADHD, involving psychologists, psychiatrists, education and family members in the treatment plan.

6.4.5 Policy Recommendations

Policies should be implemented by the Department of Social Development, Department of Education and Department of Health to ensure that access to ADHD diagnosis and treatment for all children, regardless of socio-economic status. As the long-term costs of untreated ADHD, both in individuals and society are important, funding should be allocated for ADHD screening in schools, and subsidies should be provided for families who cannot afford treatment.

6.5 Limitation of the study

This study was conducted with a small group of five participants, making it highly subjective in nature. The research focused on the unique and personal life experiences of each participant, which inherently adds a layer of subjectivity to the findings. Due to the specific and individualized nature of the data generated, these findings should not be considered broadly applicable or generalizable to the wider population.

Furthermore, the study did not account for the many other factors and dynamics that can influence people's personal experiences, which limits the scope of the conclusions that can be drawn. It is also important to note that the participant pool was drawn exclusively from my *LinkedIn* community. This sample group, while providing valuable insights, does not offer a thorough or representative cross-section of the larger community. As such, the findings from this study reflect the experiences of a very specific and limited group and should be interpreted with these limitations in mind.

6.6 Conclusion

This study set out to explore the experiences of adults who lived through untreated childhood ADHD, aiming to capture both the positive and negative aspects of their journeys. The findings revealed that adults with untreated ADHD are keenly aware of their symptoms, often reflecting on how their minds work differently from those without the disorder. Participants consistently articulated their daily challenges, demonstrating a deep understanding of their cognitive and behavioural differences, which is supported by existing literature (Kouse et al., 2005; Kooij et al., 2008).

A significant theme that emerged from the study was the participants' belief that early treatment could have mitigated many of the difficulties they faced. Numerous studies support this perspective, highlighting that early intervention is crucial in managing ADHD symptoms and preventing the more severe outcomes associated with untreated ADHD in adulthood (Biederman et al., 1993). Participants expressed that early treatment might have improved their academic performance, social relationships, and overall mental health, potentially preventing the onset of co-morbid conditions like anxiety and depression.

The study also described the link between untreated childhood ADHD and substance abuse later in life. While existing research, such as that by Molina et al. (2003) and Wilens et al. (2003), suggests a strong correlation, this study found limited direct experiences of substance abuse among participants. However, the overall data supports the idea that early and sustained treatment not only helps manage ADHD symptoms but also reduces the risk of substance use disorders.

Ultimately, the study concludes that the experiences of adults with untreated childhood ADHD are characterized by a profound understanding of their condition and a shared belief in the benefits of early intervention. While each participant's journey is unique, the commonalities in their experiences underscore the critical importance of recognizing and treating ADHD early to improve long-term outcomes.

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APPENDICES


Appendix 1: Letter requesting for Volunteers on *LinkedIn*

 **Nabeelah Gause** • You ⋮
Program Manager at the Independent Institute of Education
8mo • Edited • 

 **Calling Adults with ADHD: Join My Masters of Education Thesis!**
Hello LinkedIn community,



I hope this post finds you well. I am excited to announce that I am currently working on my Masters of Education thesis, and I'm seeking individuals who have a unique perspective to share. If you were diagnosed with ADHD as a child but did not receive treatment and are now an adult, I would love to hear your story!

 **What's Involved:** Participation in this study may involve a confidential interview, questionnaire, or written reflection, depending on your comfort level. Rest assured that your privacy and confidentiality will be strictly maintained.

 **If you:**

- Were diagnosed with ADHD as a child
- Did not receive treatment or medication for ADHD
- Are now an adult

I would be delighted to have your unique perspective contribute to my research.

 **Let's Connect:** If you or someone you know fits this description and would like to participate or learn more, please reach out to me via LinkedIn message or email at 

A

Appendix 2: Letter to the participant



DEAR: PROSPECTIVE RESEARCH PARTICIPANT

RE: REQUEST FOR PERMISSION TO PARTICIPATE IN A RESEARCH STUDY

1. Nature of the Research Study

My name is Ms. Nabeelah Khan and I am a Master of Education (specializing in Educational Psychology) student at the University of KwaZulu-Natal, Edgewood Campus. I hereby request you to be a research participant in my research study. The title of my research is: *“The good, the bad and the ugly of untreated childhood ADHD: through their voices as adults.”*

The main purpose of this study is to:

- To understand the effects and consequences that untreated childhood ADHD has had on children through their voices as adults. An understanding from their perspective.

I know that confidentiality is very important to you especially when it comes to such sensitive information. However, I would like to assure you that all information that is gathered will be used for the purpose of the research study and will be kept in a safe place at the University of KwaZulu-Natal, Edgewood campus, for a period of five years. Thereafter, the documents containing the research data will be destroyed. Your confidentiality and anonymity are guaranteed. At any given point in time, you can withdraw from the study and will not be penalized for taking such action. Your involvement is purely for academic purposes only, and there are no financial benefits involved.

As a participant, you are invited to engage in the following activities as part of the data generation. The data generation methods utilized will be semi-structured interviews which will be conversational and interactive and a reflective journal which will require you to jot down memories or experiences related to the topic. A time frame will be prescribed to this activity. The sessions will take place at a convenient place and time for you and will not disrupt your day-to-day functioning.

As a participant, you may contact the researcher or supervisor. The details are below:

Researcher	<p>Name: Ms. Nabeelah Khan</p> <p>Student Number: 211510420</p> <p>Current qualification: Masters in Education specializing in Educational Psychology.</p> <p>Pre-qualification: Bachelor of Social science honors degree in Psychology.</p> <p>Contact Number: [REDACTED]</p> <p>Email Address: [REDACTED] / 211510420@stu.ukzn.ac.za</p>
Supervisor	<p>Name: Dr. Visvaranie Jairam</p> <p>Qualification: PhD. Doctor in Education</p> <p>Contact Number: 031 260 1438</p> <p>Email Address: jairam@ukzn.ac.za</p>
Research Office	<p>You may also contact the Research Office through:</p> <p>HSSREC Research Office, Tel: 031 260 8350/4557/3587 E-mail: hssrec@ukzn.ac.za</p>

2. Requirements of Participant

The main requirements of the participant are as follows:

- Participation will be voluntary and subject to informed consent.
- A participant is free to withdraw from the research study at any given point in time.
- Rights of a participant will be safeguarded in relation to the preservation of confidentiality, access to research information and findings, and misleading promises regarding the benefits of the research.
- Anonymity and Confidentiality will be ensured through a coding system to avoid the inclusion of personal identifiers. The participant will not be identifiable when the researcher presents her findings. Confidentiality will be maintained in storing and disposing of research findings.
- Any information given by you cannot be used against you. The data collected will be used for the purposes of this research only.
- Each session may take up to two hours and may be split depending on your preference.

Yours Sincerely,

Ms Nabeelah Khan

PARTICIPANT DECLARATION

I, _____ (Full name/s of participant) hereby voluntarily agree to participate in this research study. I confirm that I understand the contents of this document and the nature of the research study. I have been briefed about the nature of the research study by the researcher in advance. I understand that I am at liberty to withdraw from the research study at any time, so should I desire. I also understand that the results of this research study will be used for the purpose of the study only, and that my identity will be kept confidential.

I give permission for the use of the following record devices during the group sessions and data production process:

	Willing	Not willing
Audio recording:		

Semi-structured interviews		
Reflective Journal - and transcribed data		

Signature of Participant

Date

Appendix 3: University Approval and Ethical Clearance



25 April 2024

Nabeelah Khan (211510420)
School of Education
Edgewood Campus

Dear N Khan,

Protocol reference number: HSSREC/00006718/2024

Project title: The good, bad, and ugly of untreated childhood attention deficit hyperactivity disorder: through their voices as adults.

Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 28 February 2024 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted FULL APPROVAL.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

Incidents of adverse events and serious adverse events (AEs and SAEs) should be reported in writing to HSSREC, the study sponsors, and any regulatory authority (where appropriate), within 7 working days of the occurrence for local sites and 14 days for all other South African sites.

This approval is valid until 25 April 2025.

To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

HSSREC is registered with the South African National Health Research Ethics Council (REC-040414-040).

Yours sincerely,



Professor Dipane Hlalele (Chair)
/dd

Humanities and Social Sciences Research Ethics Committee

Postal Address: Private Bag X54001, Durban, 4000, South Africa

Telephone: +27 (0)31 260 8350/4557/5567 Email: hssrec@ukzn.ac.za Website: <https://research.ukzn.ac.za/research-ethics>

Funding Campus: Edgewood Howland College Medical School Pietermaritzburg Westville

INSPIRING GREATNESS

Appendix 4: Data Collection Instruments

To generate data, I will use *semi-structured interviews*.

The questions for the interview are:

8. How would you describe your experience as a child suffering with ADHD?
6. Do you believe that treatment would have curbed some of your symptoms? Why do you believe that?
10. In your opinion, how did your childhood untreated ADHD contribute to the challenges you are experiencing in your adult life?
11. What is your understanding of ADHD?
12. Describe your experiences as a child when you were dealing with untreated ADHD.
13. What would have been the benefits of treating your diagnoses early?
14. What would treatment of ADHD have prevented later in adult life?

These questions will be used as a guide when interviewing my participants. A lot of probing will take place and more questions will follow based on the answers received.

Time frame for the semi-structured interviews:

I will meet my participants on two occasions for a brief 30 minutes on each meeting. These interviews will be recorded for me to refer to when analyzing the data.

Reflective Journals:

A notebook will be presented to each participant to reflect on their experiences and memories of their childhood, in relation to their ADHD diagnoses. This will serve as a type of diary where the participants will make regular entries during the prescribed time frames.

Time frame for reflective journals:

Participants will be given a time frame of one to two weeks to complete their reflections. Within these reflections I aim to prompt my participants to tell a story of their experiences and memories when being diagnosed with ADHD and any thought or reflection emanating from those experiences.

Structure of the reflective journal:

Reflective journal

Participant: _____

The aim of this journal is to keep a record of your thoughts, notes, and reflections about your experiences after being diagnosed with ADHD.

You may use the following to reflect on:

- What is your understanding of ADHD?
- Describe your experiences as a child when you were dealing with untreated ADHD.
- What would have been the benefits of treating your diagnoses early?
- What would treatment of ADHD have prevented later in adult life?

Appendix 5: Turnitin Report

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Match Overview

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Chapter 1

1.1 Background and introduction to study

The good, the bad and the ugly of untreated childhood attention deficit hyperactivity disorder (ADHD): through their voices as adults

Attention deficit hyperactivity disorder (ADHD) is the term used to describe children who are inattentive, impulsive, and hyperactive (Stevens et al., 1995, p.761), and is a very prevalent and demanding childhood neurobehavioral disorder affecting 2.0% - 16.0% of the school-age population. The populatc prevalence for ADHD is estimated as 3.0% - 5.0%. It is now widely acknowledged that an estimated 60.0% - 70.0% of patients' symptoms persist into adulthood. ADHD is known to impact children negatively. Due to various impediments to assessment, ADHD is under-diagnosed, misdiagnosed, and not adequately treated. As a result of poor diagnosis in childhood, ADHD persists into adulthood posing as a further challenge. With the above statistics, it would be interesting to find out the different ways in which

1	Hamed, Alaa M., Aaron ...	<1%
2	James Scherzer, Allan E. ...	<1%
3	Klaus W. Lange, "The bi...	<1%
4	David Martins, Christo...	<1%
5	Renata Schoeman, Ryk...	<1%
6	Carol Weelby, Silvana ...	<1%
7	"The Palgrave Handbo...	<1%

Appendix 6: Editor's Report



Academic Consulting and Research Advisory

Dr S. Ramson

PhD, MA, Hons (Psych), UHDE, BA

Coaching for Academic Excellence

Email: [REDACTED] Mobile: + [REDACTED]

EDITOR'S NOTE

31/10/24

Editing Work for: NABEELAH KHAN, Student number: 211510420

Research Title: THE GOOD, BAD AND UGLY OF UNTREATED CHILDHOOD ATTENTION DEFICIT HYPERACTIVITY DISORDER: THROUGH THEIR VOICES AS ADULTS

A dissertation submitted in partial fulfilment of the requirements for the degree of Master of Education in the School of Education, within the Discipline of Educational Psychology, at the University of KwaZulu-Natal, Edgewood Campus.

Following the mandate of the student, this dissertation has been checked for:

Technical aspects: read and edited according to SA language, spelling, grammar and usage; sentence construction; referencing according to APA 7th standards, checked alphabetical sequence in list and for correct use of in-text references, coherence and continuity; formatting of text according to requirements. standardization of chapter titles, and overall neatness of layout, presentation and design.

Corrections and suggestions regarding the introduction and background to the study, appropriateness of the research questions for the study; the relevance and comprehensiveness of the literature review; strength and coherence of the research design and methodology; examined the analysis, interpretation of data and arguments provided; key findings, strengths and weaknesses of the study, validity and trustworthiness and ethics, and the overall coherence and continuity of chapters.

WAIVER: Any substantive changes made were only to CLARIFY the meaning, NOT to change the meaning of the student's work.

The student has engaged my services as editor for the purposes of critically reading and correcting the technical aspects of the work after the supervisor had sufficiently examined the thesis and advised the student with reference to research, research methodology, data generation, reporting, knowledge production and content.

The editor waives any claim of responsibility regarding the student's type of research, research process, research methodology, data generation, reporting of data, knowledge production and content. The editor cannot be held accountable for any plagiarism by the student or the examiner's final assessment

of the student's effort. The Turnitin report supplied by the student will be accepted as credible without this editor having to pursue any investigation as to the originality of the student's submission.

The document has been reviewed and edited by me using the *Track Changes* feature of Word. The edited document returned to the student remains fully editable and the student reserves the right to accept, reject or modify my suggestions and changes. It can be thus accepted that the final version of this document submitted for examination by the student may differ from the document returned by me.

The student was advised that the layout and design be checked again before printing as this could become scrambled when posted on email due to different formats and settings, and that the final document be saved as a PDF file for printing, ensuring that the printers have the appropriate fonts on their computer systems.

S.M. Ramson