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The Power of Recognizing Strengths: Understanding the Negative Impact of Parental Self-Stigma on the Self-Esteem of Children with ADHD

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The Power of Recognizing Strengths: Understanding the Negative Impact of Parental Self-
Stigma on the Self-Esteem of Children with ADHD

by

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A THESIS

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Abstract

Attention-deficit/hyperactivity disorder (ADHD) is a prevalent neurodevelopmental disorder affecting children globally (American Psychiatric Association [APA], 2022). While research has often focused on the challenges associated with ADHD, there is an increasing emphasis on recognizing their unique strengths (Climie & Mastoras, 2015). However, parents of children with ADHD often experience self-stigma, which can inadvertently influence their child's well-being (Li et al., 2019) and self-esteem. The current study investigated the relationships between parents' self-stigma, perceptions of the child's strengths as reported by the parent and the child, and self-esteem in children with ADHD. Moreover, the study explored how the parent's perceptions of the child's strengths might mitigate the adverse effects of parents' self-stigma on children's self-esteem. The sample consisted of 63 parents and their children diagnosed with ADHD between the ages of 8-17 years (males: $n = 42$; females: $n = 21$). A multi-stage statistical analysis approach encompassed correlation, hierarchical regression, and mediation analysis. Findings revealed that parental self-stigma has a significant negative effect on children's self-esteem, while child perceptions of their strengths had a positive effect. Although the direct effect of the parent's perception of their child's strengths on the child's self-esteem was not statistically significant, the indirect effect through parent self-stigma was significant. The results emphasize the need for interventions to support parents in reducing the effects of self-stigma and promote positive parenting practices that recognize and utilize the child's strengths.

Keywords: ADHD, parent self-stigma, self-esteem, strengths, parents, children

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Preface

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List of Symbols, Abbreviations or Nomenclature

ADHD	Attention-Deficit/Hyperactivity Disorder
ADHD-C	Attention-Deficit/Hyperactivity Disorder- Predominantly Combined
ADHD-HI	Attention-Deficit/Hyperactivity Disorder- Predominantly Hyperactive Impulsive
ADHD-I	Attention-Deficit/Hyperactivity Disorder- Predominantly Inattentive
APA	American Psychiatric Association
ASD	Autism Spectrum Disorder
BERS-2	Behavioral and Emotional Rating Scale – Second Edition
BERS-2 PR	Behavioral and Emotional Rating Scale – Second Edition, Parent Report
BERS-2 CR	Behavioral and Emotional Rating Scale – Second Edition, Child Report
CBCL	Child Behavior Check List
CFREB	Conjoint Faculties Research Ethics Board
Conners-3-P(S)	Conners Rating Scale Third Edition, Parent Short Form Rating Scale
DSM-5-TR	Diagnostic and Statistical Manual of Mental Disorders, 5t Edition, Text Revision
FSIQ-2	Full Scale Intelligence Quotient- Two Subtest Form
LDAA	Learning Disabilities Association of Alberta
PERMA	Positive emotions, Engagement, Relationships, Meaning, and Achievement
PSSS	Parents’ Self-Stigma Scale
RSES	Rosenberg’s Self-Esteem Scale
SPSS	Statistical Package for the Social Science
WAIS-IV	Wechsler Adult Intelligence Scale, Fourth Edition
WASI-II	Wechsler Abbreviated Scale of Intelligence – Second Edition
WISC-IV	Wechsler Intelligence Scale for Children, Fourth Edition

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Chapter 1: Introduction

Attention-deficit/hyperactivity disorder (ADHD) is a prevalent neurodevelopmental disorder that persists across the lifespan and affects numerous children worldwide (American Psychiatric Association [APA], 2022). Specifically, ADHD is characterized by persistent patterns of inattention, hyperactivity, and impulsivity that interfere with functioning or development. While much of the existing research has focused on the challenges and symptoms associated with ADHD, there is a growing recognition of the importance of focusing on the unique strengths and resilience of children with ADHD. Therefore, this perspective forms the basis of the current project.

Parents play a pivotal role in identifying and nurturing their child's strengths, which can support positive self-esteem development. However, parents of children with ADHD often experience stigma (Bisset et al., 2022; Charbonnier et al., 2019), including feelings of self-shame, self-blame, and beliefs of being a bad parent (Eaton et al., 2016, 2019). Parent self-stigma may inadvertently influence their child's self-esteem, as parents may focus more on their child's challenges, potentially overlooking their child's strengths. Consequently, parents' self-stigma can have adverse effects on both the parents and children's well-being (Chan et al., 2023; Li et al., 2019). Thus, understanding the dynamic between parent self-stigma and its influence on parent and child well-being is crucial, as it forms the foundation of the current research questions.

Self-esteem, an individual's subjective evaluation of their worth, is crucial to psychological health and well-being (Fennell, 1997; Rosenberg, 1965), influencing academic, social, and behavioural outcomes (Orth & Robins, 2022). Moreover, parental influence, including parenting practices, attitudes, and support, can affect the development of a child's self-

esteem (Felson & Zielinski, 1989; Harris et al., 2017; Krauss et al., 2020). According to Social Learning Theory (SLT), children learn behaviours, attitudes, and emotional responses through observing and imitating their parents (Bandura, 1977). When parents exhibit positive behaviours such as warmth, encouragement, and support, children are likely to model their parents' behaviours, enhancing their well-being. Further, SLT highlights the importance of reinforcement, suggesting that positive reinforcement from parents, such as praise and rewards, reinforces the child's behaviour and contributes to a sense of competence and self-worth. Thus, SLT provides a valuable framework for understanding how parental attitudes and behaviours can support the self-esteem of children with ADHD.

Positive parental influences and the child's positive self-perception of their strengths may play a vital role in supporting the development of their self-esteem. A strengths-based approach, which focuses on identifying and utilizing individual strengths, has shown promise in improving the outcomes for children with ADHD (Climie & Mastoras, 2015). Furthermore, identifying and utilizing individual strengths aligns with the principles of positive psychology, a field that emphasizes individuals' positive attributes and capabilities (Seligman & Csikszentmihalyi, 2000). Thus, positive psychology provides a valuable framework for understanding how recognizing and supporting children's strengths can enhance the well-being and resilience of children with ADHD. However, despite the potential benefits of positive perceptions and strengths, the relationship between parental self-stigma, child strengths, and self-esteem in children with ADHD remains unexplored.

The current study aims to bridge the research gaps and seeks to understand the influence of parent self-stigma on the self-esteem of children with ADHD. Specifically, it will investigate the relationship between parent self-stigma and the perceptions of a child's strengths and, in turn,

how the perceptions influence the child's self-esteem. It also aims to explore how the strengths reported by parents and children influence the relationship between parent self-stigma and children's self-esteem. By examining the dynamics between parental self-stigma, perception of children's strengths, and self-esteem, this study aims to contribute to a more nuanced understanding of the effects of parents' self-stigma within families of children with ADHD and help to inform more effective interventions and support for both parents and children.

Chapter 2: Literature Review

Attention-Deficit/Hyperactivity Disorder

Attention-deficit/hyperactivity disorder (ADHD) is one of the most prevalent childhood disorders, occurring in approximately 6.6 million children in the United States between the ages of three and seventeen years (Zablotsky et al., 2019) and roughly 7.2% of children globally (APA, 2022). ADHD is a neurodevelopmental disorder that begins in early life and persists over time, affects a child's learning ability, and is associated with both immediate and future adverse outcomes such as academic underachievement, school failure, and poor health. Notably, about 50% of children diagnosed with ADHD continue to exhibit symptoms that impair their functioning into adulthood, leading to an adult prevalence rate of approximately 2.5% (Gascon et al., 2022; Song et al., 2021).

Presenting Symptoms of ADHD

ADHD is characterized by inattention, hyperactivity, and impulsivity. Inattention refers to the inability to maintain focus, persist with tasks, recall, and adhere to instructions, and resist distractions (Nigg, 2005). Moreover, different types of attention may be affected in individuals with ADHD, such as sustained attention, which has important implications for academic outcomes. Specifically, sustained attention, the ability to sustain focused attention over time, is crucial for many tasks required to achieve academic success. Deficits in sustained attention are a core characteristic of ADHD (Cheng et al., 2023; Henning et al., 2024). Subsequently, deficits in sustained attention can lead to difficulties with alerting, which is the ability to maintain a state of readiness to respond (Posner & Raichle, 1994). For instance, individuals with ADHD may respond overly quickly to tasks requiring slow, careful attention to detail or respond too slowly to tasks that require a prompt response (Mullane et al., 2011). Consequently, children with

deficits in sustained attention may have challenges initiating and persisting with tasks such as homework, even when motivated to complete the work (Langner & Eickhoff, 2013).

Hyperactivity and impulsivity are additional symptoms of ADHD, often indicating deficits in behaviour regulation. Additionally, hyperactivity and impulsivity symptoms are often associated with difficulties controlling motor behaviour, maintaining sustained inhibition, and inhibiting dominant responses (Barkley, 1997; 2014; Ferguson et al., 2023; Pievsky & McGrath, 2017). Furthermore, hyperactivity often depends on situational demands. For instance, when children are asked to remain quiet or limit their responses, such as in a classroom setting, their activity levels may not match the teacher's expectations (Staff et al., 2023). Furthermore, impulsivity exacerbates the challenges of inhibiting current behaviour or adjusting behaviour in response to situational demands. Impulsivity is demonstrated in cognitive, behavioural, and emotional processes. Specifically, cognitive impulsivity may appear as disorganization, rushed thinking, and reckless decision-making (Romero-Ayuso et al., 2020). Behavioural impulsivity may present as inappropriate or quick responses, such as a child blurting out answers without considering the consequences. Emotional impulsivity or dysregulation can also present as irritability, minimal frustration tolerance, or a hot temperament (Graziano & Garcia, 2016; Shaw et al., 2014). Emotional dysregulation is a core feature of ADHD that contributes to poor academic performance and further adverse outcomes (Beheshti et al., 2020; Bodalski et al., 2019).

Diagnostic Features

The *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition - Text Revision* (DSM-5-TR; APA, 2022) classifies ADHD as a neurodevelopmental disorder characterized by persistent inattention and/or hyperactivity-impulsivity that impacts daily functioning in multiple

settings. To receive an ADHD diagnosis, symptoms must have persisted for at least six months, cause impairment in at least two settings, and have symptom onset before the age of 12 years. Additionally, one of the three subtypes of ADHD must be specified: Predominantly Inattentive Presentation (ADHD-I), Predominantly Hyperactive-Impulsive Presentation (ADHD-HI), and Combined Presentation (ADHD-C). Although there are three presentations of ADHD, each presentation is diverse; two children with the same identified presentation may appear with a unique collection of symptoms or behaviours.

Predominantly Inattentive Presentation. The Inattentive presentation of ADHD is characterized primarily by persistent challenges with focus, attention, and organization. To meet the criteria for ADHD-I, individuals younger than 17 years must display at least six inattentive symptoms (e.g., trouble paying close attention to details, difficulty sustaining attention in tasks or play activities, or not seem to listen when spoken to), and individuals older than 17 years must display at least five symptoms (APA, 2022). Additionally, inattention has been associated with lower cognitive performance when compared to symptoms of impulsivity and hyperactivity (Movalı et al., 2020). Consequently, children with ADHD-I often demonstrate lower academic achievement when compared to children with ADHD-HI and ADHD-C (Plamondon & Martinussen, 2019; Willcutt, 2012). Thus, the inattentive presentation of ADHD significantly influences both cognitive performance and academic achievement.

Predominantly Hyperactive-Impulsive Presentation. Persistent patterns of hyperactivity and impulsivity characterize ADHD-HI and are mostly observed in children of preschool age, as hyperactivity is more evident during this developmental period (Roberts et al., 2015). To meet the criteria for ADHD-HI, six or more hyperactive-impulsive symptoms (e.g., frequent fidgeting, difficulty staying seated, or excessive talking) must be present for individuals

younger than 17 years, and individuals older than 17 years must display at least five symptoms (APA, 2022). The primary impairment of ADHD-HI involves overactive motor behaviour, inadequate sustained inhibition of behaviour, and the inability to delay a response or delay gratification (Ferguson et al., 2024). Children with ADHD-HI presentation have been found to be more likely to be destructive, disobedient, rejected by peers, suspended from school, or placed in special education classes (DuPaul & Stoner, 2014).

Combined Presentation. Symptoms of inattention and hyperactivity-impulsivity together characterize the ADHD-C presentation; ADHD-C is the most common presentation of ADHD referred for treatment (Mowlem et al., 2019; Wilcutt, 2012). Individuals with ADHD-C exhibit six or more inattentive symptoms (e.g., difficulty sustaining attention, difficulty organizing tasks or forgetfulness, etc.) and six or more hyperactive-impulsive symptoms (e.g., excessive fidgeting, leaving one's seat in situations when remaining seated is expected, interrupting or intruding others; APA, 2022). Furthermore, individuals with ADHD-C often have challenges maintaining their attention over extended periods and have difficulty with spatial memory, specifically when it comes to remembering new visual material (Faedda et al., 2021). Additionally, they may exhibit poor visuospatial working memory, which affects their ability to process and remember information in the moment and find it difficult to understand and remember spatial relationships between objects (Faedda et al., 2021). Greater impairments in short-term memory include inhibition, shift, emotional control, initiative, working memory organization, planning, order, and monitoring (Fernández-Andrés et al., 2021).

Developmental Course

Preschool. The onset of ADHD may become apparent in preschool-aged children. While accurately assessing and identifying ADHD symptoms before age three is challenging (Gleason

& Humphreys, 2016), children with ADHD in preschool often act impulsively, rushing from one activity to another, quickly becoming bored and reacting strongly to monotonous tasks (Washbrook et al., 2013). Moreover, they may also wander around the classroom, talk excessively, and interfere with other children's activities. Consequently, children who demonstrate a pattern of impulsive and hyperactive behaviour for at least a year are more likely to experience difficulties when they enter school, which can continue into adolescence and adulthood (Smith et al., 2017). Further, difficulties in resisting temptation and inhibiting activity during preschool predict ADHD symptoms in the third grade, highlighting the importance of early intervention (Campbell & Von Stauffenberg, 2009). Therefore, despite the initial design of the diagnostic criteria for ADHD focusing significantly on school-age children, early signs of ADHD may be prevalent in pre-school children. Thus, early identification and intervention are crucial to mitigate the long-term challenges associated with ADHD.

School Age. Children are most often identified as having ADHD during school age. The demand for sustained attention increases when children start school, making symptoms of inattention more apparent (Kofler et al., 2008). Symptoms of inattention persist, often leading to low academic output, distractibility, poor organization, time management difficulties, and an inability to maintain social commitments to friends (Plamondon & Martinussen, 2019; Vadnais et al., 2018). At this age, children with ADHD may increasingly have challenges with academic achievement, self-care, responsibility, household tasks, autonomy, and social interactions (Shaw et al., 2014; Wolraich et al., 2019).

Adolescence and Adulthood. The symptoms of ADHD tend to remain relatively stable into adolescence and adulthood, although some behaviours or symptom presentations may evolve or intensify with age (APA, 2022). Additionally, during adolescence and adulthood,

individuals with ADHD often face unique challenges. The transition from childhood to adulthood can exacerbate ADHD symptoms, impacting self-esteem, and leading to feelings of inadequacy or failure. For instance, in adolescence, individuals with ADHD-I may exhibit increased academic impairment, social withdrawal, or poor adaptive functioning skills. Conversely, those with ADHD-HI may experience heightened peer conflict, disruptive behaviours, or injuries (Leopold et al., 2019).

Stigma

Stigma, a pervasive and often unobserved influence, may play a significant role in the lives of individuals diagnosed with ADHD and their families. It is a societal phenomenon characterized by negative attitudes, beliefs, and stereotypes toward individuals or groups perceived as different or deviant (Corrigan & Shapiro, 2010; Goffman, 1963; Link & Phelan, 2001). Further, stigma presents in three primary forms: public stigma, self-stigma (Corrigan & Shapiro, 2010), and courtesy stigma (Goffman, 1963). Public stigma (e.g., the misconception that ADHD is caused by poor parenting), involves societal discrimination and negative attitudes towards individuals or groups (Corrigan et al., 2006; Corrigan & Shapiro, 2010). Self-stigma (e.g., an individual with ADHD believing that they are less capable or intelligent because of their ADHD) occurs when individuals internalize societal stigma, leading to negative self-perceptions (Corrigan et al., 2006; Corrigan & Shapiro, 2010), which can result in feelings of shame, guilt (Eaton et al., 2019, 2020), and low self-esteem (Catalano et al., 2021; Corrigan et al., 2006; Corrigan et al., 2016).

Affiliate stigma, also known as associative or courtesy stigma, is the stigma associated with those closely connected to an individual with a mental illness or disorder (Goffman, 1963), including family members or caregivers (e.g., a parent of a child with ADHD feeling a sense of

guilt due to societal misconceptions that ADHD is a result of poor parenting; dosReis et al., 2010; Shi et al., 2019). Further, affiliate stigma may progress into self-stigma for parents, such that parents perceive themselves as inadequate parents, feel responsible for their child's diagnosis or experience shame regarding their child's diagnosis (Eaton et al., 2016, 2020; Moses, 2010b). Given these various forms of stigma, it is evident that the effect of stigma may extend beyond the individual and interact with the individuals in their immediate environment. As such, self-stigma is especially apparent in the context of mental health disorders, as it may prevent individuals from seeking help and receiving the support they need. Thus, the following section will address the multifaceted nature of self-stigma, particularly in the context of ADHD, as well as its unique characteristics and implications.

Parents' Self-Stigma

Parents can experience a unique form of self-stigma, which involves internalizing negative feelings, attitudes, and beliefs about themselves related to their child's behaviour or diagnosis (Eaton et al., 2016; Eaton et al., 2020). This stigma may have significant influences on their interpersonal relationships and personal well-being (Chan et al., 2023; Eaton et al., 2016; 2019). Consequently, self-stigma can negatively affect parents and may include self-blame, self-shame, and negative self-beliefs about parenting skills (Eaton et al., 2016, 2019; Laugesen et al., 2016).

In particular, self-stigma has implications interpersonally, as parents may feel guilty and blame themselves for their child's condition, feel embarrassed or ashamed to be associated with their child, or believe that they are not good parents (dosReis et al., 2010; Drent et al., 2022; Eaton et al., 2019, 2020; Laugesen et al., 2016). Furthermore, parents' self-stigma can severely affect their personal well-being and parenting efficacy (Li et al., 2019).

Influenced by societal attitudes, personal beliefs, and experiences with healthcare or educational systems (Broady et al., 2017; Kinnear et al., 2016), increased parental self-stigma has been associated with increased stress and parent distress (Chan et al., 2023; Leitch et al., 2019), decreased quality of life (Serchuk et al., 2021), and reduced parental self-efficacy (Drent et al., 2022; Li et al., 2019). Consequently, parents' self-stigma may increase negative parenting behaviours and beliefs (Chan et al., 2023; Eaton et al., 2019; Li et al., 2019), which is associated with adverse child outcomes, such as fewer prosocial behaviours and more externalizing and internalizing behaviour (Li et al., 2019). Additionally, parents' self-stigma has been associated with barriers to accessing care for their child (Hansen et al., 2021; Reardon et al., 2017), resulting in a reduced commitment to treatment adherence or early termination of treatment (Baweja et al., 2021; Kalamani et al., 2023; Kappi & Martel, 2022; Mueller et al., 2012). Therefore, understanding and addressing parents' self-stigma is crucial to support both parent and child outcomes. Overall, the self-stigma experienced by parents has implications not only for their well-being but also for their child's development and quality of life.

Stigma Associated with ADHD

Stigma is a significant concern for many individuals with ADHD and their families. The stigma associated with ADHD, often rooted in societal misconceptions about ADHD, can lead to misunderstanding and judgment, further lowering the self-esteem of individuals with ADHD (Ferrie et al., 2020; Masuch et al., 2019; Moldavsky & Sayal, 2013). As a result, individuals with ADHD may feel isolated, misunderstood, or different from their peers (Mueller et al., 2012), intensifying the challenges they encounter. In addition, the stigma associated with ADHD is manifested in various forms, including public stigma, self-stigma, and affiliate stigma, each having unique implications for individuals with ADHD and their families. For example, Bisset

and colleagues (2022) investigated public stigma and found that children with ADHD are often perceived as less academically inclined and less prosocial than their peers without ADHD. Additionally, individuals with ADHD also report self-stigma (Jelinkova et al., 2024; Masuch et al., 2019), in which they internalize and accept public stigma beliefs, leading to lower self-esteem and quality of life (Masuch et al., 2019; Mueller et al., 2012). Consequently, the stigma associated with ADHD is often a risk factor for discrimination, lower self-esteem, isolation, and increased symptom severity for individuals with ADHD (Bisset et al., 2022; Ferrie et al., 2020; Masuch et al., 2019; Moldavsky & Sayal, 2013).

Parent Self-Stigma and ADHD. In addition to the effects of stigma on the individual diagnosed with ADHD, parents of children with ADHD often experience their own self-stigma in which they feel stigmatized due to their association with their stigmatized child (affiliate stigma; Charbonnier et al., 2019; Mikami et al., 2015; Wiley & Vaughn, 2020), and self-stigma as parents, where they feel guilt or blame themselves for their child's ADHD (Laugesen et al., 2016). Self-stigma experienced by parents is often exacerbated by a range of factors, including societal attitudes towards their child with ADHD (dosReis et al., 2010; Eaton et al., 2016), lack of knowledge about ADHD (Bisset et al., 2022), and negative experiences with healthcare providers (Schoeman & Voges, 2022). Furthermore, the fear of being labelled as a "bad parent" often intensifies their self-stigma (dosReis et al., 2010; Eaton et al., 2016). Consequently, the stigma experienced by parents of children with ADHD has many adverse implications for both the parent and the parent-child relationship. For example, parent self-stigma has been associated with increased stress, adversely affecting the parents' mental health and the parent-child relationship (Chan et al., 2023; Cheung et al., 2019; Laugesen et al., 2016). Furthermore, mothers of children with ADHD who experience stigma concerning their child's ADHD have

reported increased anxiety and depression (Charbonnier et al., 2019; Chen et al., 2021; Smit et al., 2021) as well as social isolation from their social groups and family (dosReis et al., 2010; Laugesen et al., 2016; Moldavsky & Sayal, 2013). Collectively, these findings indicate that the self-stigma experienced by parents of children with ADHD, influenced by societal attitudes, lack of knowledge about ADHD and negative experiences with healthcare providers, has significant implications. Parent self-stigma not only impacts parents' mental health and social relationships but also significantly affects the parent-child relationship. Given the pervasive nature of stigma in the context of ADHD, it is evident that the negative effects may extend beyond individuals with ADHD and interact with the individuals in their immediate environment. Addressing and understanding parents' self-stigma is crucial to support both parent and child outcomes.

Parental Self-Stigma and Child Outcomes

Research on parental self-stigma has revealed several key insights regarding the parent-child relationship. For example, studies conducted across various populations have found that parental self-stigma is associated with decreased parental self-efficacy and reduced perceived parenting competence (Drent et al., 2022; Li et al., 2019), an increase in negative parenting behaviours and beliefs (Chan et al., 2023; Eaton et al., 2019), and adverse child outcomes including less prosocial behaviours and more externalizing and internalizing behaviour (Drent et al., 2022; Li et al., 2019). Further, while the findings between parent self-stigma and child outcomes have been consistent across various populations, the research on parent self-stigma has been conducted in the context of other neurodevelopmental disorders, such as autism spectrum disorder (ASD). For instance, studies examining the effects of parental self-stigma on parenting children with ASD have found that parents who experience self-stigma tend to have increased parenting stress, leading to less patience, calmness, and compassion toward their children (Chan

et al., 2023; Cheung et al., 2019). However, the effects of parental self-stigma on children with ADHD requires further exploration. A recent study by Jelinkova and colleagues (2024) explored the relationship between the self-stigma of parents and their children diagnosed with ADHD. The study found that parents' self-stigma did not significantly influence their children's self-stigma when factors such as parental education, the child's gender, and the severity of the child's ADHD symptoms were considered. Instead, it was the severity of the child's inattentive symptoms that significantly predicted the level of self-stigma that the child experienced. In addition, a second study found that adolescents with various mental health disorders reported higher levels of self-stigma when their parents exhibited a strong inclination to hide their child's mental health condition or had more encounters with courtesy stigma and shame regarding their child's mental health condition (Moses, 2010a). While some studies have begun to investigate the impact of parental self-stigma on child outcomes, the specific effects of parental self-stigma on children, particularly those with ADHD, are still not fully understood and warrant further investigation.

Self-Esteem

Outcomes of Self-Esteem

Self-esteem, an individual's overall subjective emotional evaluation of their self-worth or personal value, is essential in their psychological development and significantly influences various aspects of life (Fennell, 1997; Rosenberg, 1965). It is a complex construct that involves how individuals perceive their worth, shaping their confidence and self-image and is necessary for psychological health and well-being; it encompasses self-beliefs and emotions such as accomplishment, misery, pride, and shame (Mazzone et al., 2013). Moreover, self-beliefs are shaped by positive and negative self-evaluations constructed through individual experiences, societal standards, and perceived comparisons (Rosenberg, 1965). Consequently, an individual's

level of self-esteem can significantly influence their life outcomes. For example, high self-esteem is often associated with positive life outcomes, including increased happiness, greater satisfying relationships and performing better at school and work (Arsandaux et al., 2021; Harris & Orth, 2020; Orth & Robins, 2022).

Conversely, individuals with low self-esteem are at greater risk of experiencing mental health concerns such as depression and anxiety, as well as increased susceptibility to stress (Nguyen et al., 2019; Orth & Robins, 2022). As such, the mental health challenges can further influence individuals' decision-making, motivation, and interpersonal relationships, highlighting the significant role self-esteem plays in supporting several aspects of life, both positively and negatively (Harris & Orth, 2020; Orth & Robins, 2022). However, it is essential to understand that self-esteem is not a constant construct, as it can change over time and be influenced by several factors, including life experiences, social relationships, and changes in one's circumstances (Harris & Orth, 2020; Orth et al., 2018; Orth & Robins, 2022). As such, self-esteem is a complex and dynamic construct that can play a vital role in an individual's psychological well-being and life outcomes.

Self-Esteem in Children and Adolescents

Self-esteem, particularly in children, is a critical factor that significantly influences psychological and emotional development, affecting their progression into adulthood (Orth et al., 2012; 2018). Research indicates that children with high self-esteem exhibit increased resilience and are more likely to overcome challenges, contributing to their personal and academic growth (Liu et al., 2021; Orth & Robins, 2022). As such, resilience often leads children with higher self-esteem to embrace new experiences, fostering a positive cycle of self-improvement and achievement. Orth and colleagues (2012) reinforced this finding, demonstrating that children

with high self-esteem had better school performance, more confidence, and stronger social skills, reinforcing the importance of self-esteem in a child's development. Conversely, low self-esteem can function as a barrier to a child's development. Children with low self-esteem can have challenges with self-doubt, which can deter them from engaging in beneficial activities and experiences. They are also more prone to mental health issues such as anxiety and depression (Nguyen et al., 2019; Orth et al., 2012).

Furthermore, longitudinal research has further highlighted the importance of self-esteem in children and adolescents. Specifically, Orth and colleagues (2018) conducted a meta-analysis of longitudinal studies and found that self-esteem increased in early and middle childhood, remained stable during adolescence, and continued to increase into young and middle adulthood. Notably, the study highlighted that low self-esteem in childhood and adolescence is associated with poorer mental and physical health in adulthood. The findings suggest that self-esteem plays a vital role in a child's emotional and psychological development, influencing their self-perception, interactions with others, resilience, and willingness to take on new challenges. Fortunately, self-esteem can be nurtured and developed over time. Factors including positive experiences, achievements and supportive relationships can significantly enhance a child's self-esteem (Harris & Orth, 2020; Orth et al., 2018). Thus, given the importance of self-esteem, its developmental trajectory, and the importance of early positive relationships in the development of self-esteem, it is essential to understand how parents can play a significant role in supporting children's self-esteem.

Parental Influence on Children's Self-Esteem

Parenting practices play a crucial role in the development of a child's self-esteem. As the primary and most influential figures in a child's life, parents can significantly affect their child's

self-perception and self-worth with their actions and attitudes. Accordingly, parental influence on children's development is supported by the principles of SLT, which emphasizes the role of parents in affecting children's behaviour (Bandura, 1977). Moreover, according to SLT, children learn behaviours, attitudes, and emotional responses by observing and imitating their parents. When parents exhibit positive behaviours such as warmth, encouragement, and support, children are likely to model these behaviours, thereby influencing their self-esteem. Additionally, reinforcement plays a critical role in learning. Specifically, positive reinforcement from parents, such as praise and rewards for achievements, reinforces the child's behaviours and contributes to a sense of competence and self-worth. Thus, positive reinforcement helps to solidify the child's self-esteem as they associate their actions with positive outcomes. Lastly, cognitive processes are also essential to SLT, suggesting that children internalize their parents' supportive attitudes, which supports their self-perceptions and self-esteem.

Similarly, research supports SLT as parental involvement, support, and positive reinforcement have been associated with enhanced children's self-esteem. For example, consistent positive parenting practices, such as warmth, positive feedback and acknowledgment of children's efforts and achievements, help foster a sense of self-worth, confidence (Kou, 2022), and competence in the child, thereby enhancing self-esteem (Felson & Zielinski, 1989; Harris et al., 2017; Krauss et al., 2020; Sorkhabi & Middaugh, 2019). Additionally, Bandura (1977) identified four mediational processes, attention, retention, reproduction, and motivations, which influence whether a behaviour is imitated. For example, children must first pay attention to their parents' behaviours, retain the information, be capable of reproducing the behaviour, and be motivated to do so. Thus, positive parenting practices that engage the child's attention and are consistently reinforced can effectively develop the child's self-esteem.

Furthermore, longitudinal studies have demonstrated that parental warmth and monitoring positively predict children's self-esteem (Felson & Zielinski, 1989; Harris et al., 2017). Moreover, parental influences in childhood can help support children's self-esteem in childhood and adulthood. For example, Orth's (2018) longitudinal study suggested that the quality of parenting and the home environment can influence children's self-esteem and that these effects can be observed into adulthood. Thus, the findings highlight parents' significant role in children's self-esteem and its influence on their development from childhood to adulthood.

Alternatively, harmful parenting practices, such as criticism, overprotection, or neglect, are associated with low self-esteem in children (Kurman et al., 2018; Piquart & Gerke, 2019). Similarly, maternal depression has been found to negatively predict children's self-esteem (Orth, 2018; Krauss et al., 2020; Sorkhabi & Middaugh, 2019). As such, adverse parenting may impair a child's self-confidence and contribute to a distorted self-perception. Additionally, children with lower self-esteem often have challenges with feelings of inadequacy and are more prone to mental health concerns (Nguyen et al., 2019; Orth & Robins, 2022). Consequently, lower self-esteem is associated with adverse outcomes for children.

Self-Esteem and ADHD

Self-esteem is a critical area of focus for children with ADHD, as it can affect their academic, social, and behavioural outcomes. Children with ADHD may face various challenges in their academic, social, and behavioural domains (Arnold et al., 2020, Henning et al., 2024; Martin et al., 2024) which can negatively affect their self-perception and, consequently, their self-esteem (Becker et al., 2017; Harpin et al., 2016). Moreover, research has consistently indicated that both children (Kurman et al., 2018; Mazzone et al., 2013) and adults with ADHD tend to have lower self-esteem when compared to their peers without ADHD (Kurman et al.,

2018; Newark et al., 2016). Additionally, lower self-esteem is not an isolated issue; it has broad implications, particularly in cognitive performance. For example, several studies have demonstrated a significant positive relationship between lower self-esteem and lower cognitive performance (Movali et al., 2020; Salehinejad et al., 2020; Tobia et al., 2017). These findings suggest that low self-esteem may be related to lower cognitive performance, thereby exacerbating challenges that children with ADHD often encounter. However, the research in this area is not comprehensive, as only one study has specifically examined the link between cognitive performance and self-esteem in children with ADHD (Movali et al., 2020). The study demonstrated that children with the lowest cognitive performance also had the lowest levels of self-esteem. Additionally, Movali and colleagues (2020) found that children with the highest cognitive performance strengths reported the highest self-esteem level compared to their peers who demonstrated less cognitive strengths. The results suggest that children with higher cognitive strengths report higher self-esteem, while those with lower cognitive strengths exhibit lower self-esteem. Thus, the findings indicate that there may be a bidirectional relationship between cognitive performance and self-esteem in children with ADHD. Further, these findings highlight the importance of supporting the strengths and abilities of children with ADHD, which could potentially enhance their self-esteem; however, further investigation is needed.

Another essential aspect to consider is the potential factors involved in the development of self-esteem in children with ADHD. For example, a longitudinal systematic review emphasized this need by investigating the effects of intervention for ADHD across the lifespan on self-esteem outcomes (Harpin et al., 2016). The review revealed that individuals with ADHD who received treatment were more successful in improving self-esteem than those who did not receive intervention. This finding is significant as it demonstrates that self-esteem in individuals

with ADHD is not a fixed trait but can be improved with appropriate intervention and support. However, supporting self-esteem in children with ADHD does not end with addressing their symptoms alone. It is equally crucial to explore and understand the factors that influence self-esteem and the unique strengths of these children.

Parental Influence in the ADHD Context

Self-esteem is an essential aspect of well-being for children with ADHD, as it can affect their academic, social, and behavioural outcomes. However, self-esteem is influenced not only by the child's characteristics and experiences but also by the parenting practices and attitudes they receive. Supportive parenting practices, which include showing acceptance, encouragement, and warmth, can foster self-esteem in children with ADHD. Oh, and colleagues (2012) found that positive parenting attitudes were associated with higher self-esteem in children with ADHD. However, parent's perceptions, misconceptions, and attitudes toward ADHD can also affect their child's well-being. For example, some parents may experience self-stigma or the internalization of negative stereotypes and beliefs about ADHD, thus adversely affecting their child.

Consequently, a parent's self-stigma can harm both parents and children, affecting their parenting behaviour and children's well-being (Cheung et al., 2019; Charbonnier et al., 2019; Mikami et al., 2015). Taylor and Antshel (2021) examined parents' attitudes and beliefs associated with treatment and information-seeking for their children with ADHD and found that lower parental knowledge of ADHD and higher levels of parent self-stigma were associated with lower help-seeking behaviours. These findings suggest that parents who feel shame or guilt about their child's ADHD may be less likely to seek and provide adequate support and intervention for their child. Similarly, Pollak and colleagues (2020) found that lower parental knowledge of ADHD was also associated with higher child involvement in risk-taking behaviour, mediated by

the severity of ADHD symptoms. These findings may suggest that parents who are less knowledgeable about ADHD may be less able to support and guide their child, which may lead to more risk-taking and, consequently, worse outcomes for their child. While this research provides valuable insights into the negative consequences that may be associated with limited parental knowledge of ADHD and stigma, it primarily focuses on parent reports. Specifically, the study did not investigate the adverse outcomes reported by the child. The inclusion of children's self-reports in research on ADHD is a crucial aspect to examine, as children's self-reports can offer unique insights into their experiences and perspectives, which may differ from those of their parents (Hoza et al., 2007).

Additionally, Özaslan and Yildirim (2021) investigated the relationship between self-esteem and self-stigma of mothers of children with ADHD. They found that among these mothers, those who reported elevated levels of parenting self-stigma also reported lower self-esteem and more severe symptoms of ADHD in their children. Furthermore, the authors also discovered a predictive relationship between mothers' self-esteem and their self-stigma, such that mothers with lower self-esteem were likely to have higher self-stigma. The findings by Özaslan and Yildirim (2021) demonstrate the significant relationship between parent-self stigma, child ADHD, and mothers' self-esteem. However, while this study provides valuable insights into how parent self-stigma affects children's and parents' well-being, it does not investigate children's self-esteem, a notable gap in the literature.

Given the relationship between parents' perceptions, knowledge and attitudes towards ADHD and their children's well-being, risk-taking behaviour, and self-esteem (Özaslan & Yildirim, 2021; Pollak et al., 2020; Taylor & Antshel, 2021), it is essential to understand further parental dynamics and how they influence children's self-esteem with ADHD. Despite the

importance of this topic, no known research to date has investigated how parents' self-stigma influences children with ADHD's self-esteem. Examining the influence of parent self-stigma is crucial, given that self-esteem is a critical factor for the well-being and development of children with ADHD. By understanding how parent self-stigma influences the self-esteem of children with ADHD, it may be possible to develop more effective interventions and support for both parents and children.

Strengths

The Positive Influence of Identifying Strengths

Focusing on strengths has a significant positive influence on an individual's quality of life. Approaches that highlight an individual's positive attributes, capabilities, and resilience foster a sense of competence, self-efficacy, and positive self-esteem (Climie & Mastoras, 2015; Krauss et al., 2020; Proctor et al., 2011). Moreover, identifying an individual's strengths is aligned with the principles of positive psychology, a branch of psychology that focuses on individuals' positive attributes and capabilities (Hopps-Wallis et al., 2016; Seligman & Csikszentmihalyi, 2000). One of the key concepts in positive psychology is character strengths, which are positive traits reflected in thoughts, feelings, and behaviour (Niemiec, 2019; Park et al., 2004). Indeed, according to Martin Seligman, the founder of positive psychology, identifying and utilizing one's character strengths can support the five core elements of well-being outlined in the PERMA model (PERMA: positive emotions, engagement, relationships, meaning, and accomplishment; Park & Peterson, 2008; Seligman, 2011).

Empirical evidence supports the benefits of utilizing character strengths in various contexts and populations. For example, character strengths have been identified to help individuals excel in social situations (Weziak-Bialowolska et al., 2021), and using one's strengths

is associated with greater self-esteem, happiness, and less stress (Proctor et al., 2011; Schwarts et al., 2022). Additionally, interventions incorporating an individual's strengths can enhance well-being, reduce stress levels, and improve health outcomes (Toback et al., 2016; Wood et al., 2011). Lastly, positive psychology also suggests that applying strengths in challenging and difficult situations can increase resilience and coping skills (Seligman, 2011; Seligman & Csikszentmihalyi, 2000).

Relationship Between Strengths and Self-esteem

Research has consistently demonstrated a positive relationship between strength and self-esteem. Previous studies have indicated that individuals who are aware of their strengths and utilize them regularly tend to have higher levels of self-esteem (Park et al., 2004; Toback et al., 2016; Wood et al., 2011). The relationship between strength and self-esteem suggests that recognizing and applying one's strengths can foster a positive self-view. Further supporting the positive relationship between strengths and self-esteem, a systematic review by Yan and colleagues' (2020) demonstrated that strengths-focused interventions, which focus on identifying and utilizing individual strengths, was associated with improved self-esteem. Similarly, longitudinal studies suggest that strengths play a crucial role in developing self-esteem over time (Schwartz et al., 2022; Wood et al., 2011). Overall, the findings emphasize the critical role that recognizing and utilizing strengths plays in fostering and maintaining positive self-esteem, as evidenced by both systematic reviews and longitudinal studies.

During childhood and adolescence, self-esteem has been found to improve when individuals feel valued by others (Chen, 2019; Gruenenfelder-Steiger et al., 2016). Particularly, parental recognition, support and affirmation of a child's strengths foster a positive environment and enhance the child's self-worth and confidence (Harris et al., 2017; Kou, 2022; Orth, 2018).

Similarly, a child's self-perception of their strengths can influence their self-esteem (Park et al., 2004; Proctor et al., 2011; Proyer et al., 2013). When children are aware of their strengths and see them as valuable, it can improve their self-esteem, leading to positive outcomes such as increased resilience and academic success (Liu et al., 2021; Park et al., 2004; Wagner et al., 2020).

Challenges and Strengths in ADHD Research

ADHD research has traditionally focused on challenges faced by individuals with ADHD, which can be challenging and discouraging for parents (Climie & Henley, 2016; Leeber et al., 2012), as well as having implications for children's self-esteem and the self-stigma that parents may encounter. Instead, focusing on the unique strengths and abilities of children with ADHD can positively affect their well-being and self-esteem (Climie & Henley, 2016; Climie & Mastoras, 2015). However, despite the understood benefits of identifying and utilizing strengths, further research is needed to understand how the perceptions of strengths by parents and children influence a child's self-esteem and parental self-stigma in the ADHD community.

The Importance of Strengths in Children with ADHD

Recognizing and nurturing strengths in children with ADHD can play a pivotal role in forming an individual's self-esteem. Children with ADHD possess distinct strengths and characteristics that can positively affect their self-esteem and overall well-being. Thus, rather than focusing solely on reducing ADHD symptoms, the emphasis is on fostering well-being, celebrating individual achievements, and promoting positive outcomes (Climie et al., 2013; Climie & Mastoras, 2015; Stolte et al., 2022). A vital component of this perspective is the role of parent and child reports of positive characteristics and strengths. Parents' perceptions of their child's strengths can significantly influence a child's self-esteem, as positive recognition and

affirmation from parents can reinforce a child's self-confidence and self-worth, thereby enhancing self-esteem (Harris et al., 2017; Kou, 2022; Orth, 2018). Similarly, when children with ADHD know and articulate their strengths, it can foster a positive self-image and enhance their well-being (Climie & Mastoras, 2015). However, it is not yet well understood how parents or children report the child's strengths individually or collectively influence a child's self-esteem, specifically in the ADHD population.

Enhancing Parent-Child Relationships Through Strengths. In the context of ADHD, focusing on strengths has significant implications for enhancing the well-being of both parents and children. Recognizing a child's unique abilities and resilience helps parents to balance their perspective, leading to a more optimistic view of their child (Climie & Henley, 2016; Climie & Mastoras, 2015; von Kraemer et al., 2023), improved parent-child interactions, and enhanced children's self-esteem (Harris et al., 2017). Furthermore, research has highlighted that recognizing and nurturing children's strengths or skills fosters a positive reciprocal relationship between parent and child well-being (Mikami et al., 2015; Wagner et al., 2020; Waters, 2011, 2015), especially in challenging situations (von Kraemer et al., 2023). Specifically, Mikami and colleagues (2015) identified a negative correlation between parent negativity and parent reports of their child's social skills, suggesting that parents who report higher social skills in their children report less parenting negativity. The finding suggests that fostering and recognizing social skills in children contribute to a more positive and supportive parenting environment. Additionally, Waters (2011, 2015) identified that when parents recognize and utilize their children's strengths, they not only support their children's self-efficacy and well-being, but they also experience positive emotions themselves. Together, the research findings highlight the

importance of recognizing and nurturing strengths to promote positive emotional outcomes in parent-child relationships.

Children's Perception of their Strengths. Despite the positive evidence of recognizing and nurturing positive strengths and the importance of focusing on strengths in the ADHD community, there are limited studies that focus on strengths in ADHD from both parent and child perceptions (Schippers et al., 2024; Sedgwick et al., 2019) and specifically as it relates to childhood ADHD (Charabin et al., 2023; Miller et al., 2024; Newark et al., 2016). For example, Charabin et al. (2023) examined specific self-reported interpersonal, intrapersonal, family involvement, affective, and school functioning strengths of children between the ages of 10 and 17 years old, with and without ADHD. In this study, it was found that children with ADHD reported similar personal strengths compared to those without ADHD in that they reported average strengths in specific areas. However, children with ADHD reported lower school functioning when compared to self-reports of children without ADHD. These findings highlight that children with ADHD recognize their personal strengths and report them at similar levels to children without ADHD. However, it also emphasizes that school functioning is an area where children with ADHD self-identify challenges, aligning with previous findings regarding ADHD-related difficulties in the classroom (Arnold et al., 2020; Becker, 2020; McDougal et al., 2023). While this study contributes to our understanding of how children with ADHD perceive their strengths, parents' perceptions are not considered. Parental perception and support of their child's strengths are crucial factors that can influence and foster a child's self-esteem (Felson & Zielinski, 1989; Harris et al., 2017; Krauss et al., 2020).

Parental Role in Fostering Strengths and Self-Esteem in Children with ADHD

Parents play a crucial role in identifying and nurturing the strengths of their children with ADHD, which can significantly influence their self-esteem. Specifically, research has demonstrated that positive recognition and affirmation from parents can reinforce a child's self-confidence and self-worth, enhancing self-esteem in the general population (Felson & Zielinski, 1989; Harris et al., 2017; Krauss et al., 2020). As previously noted, SLT (Bandura, 1977) further supports the importance of parental influence, suggesting that children internalize their parent's attitudes, which can either enhance their self-perception when strengths are acknowledged and reinforced or diminish it when the focus is on challenges. One factor that has been demonstrated to influence parents' attitudes is parental self-stigma, which has consistently been associated with adverse outcomes (Bisset et al., 2022; Laugesen et al., 2016; Moldavsky & Sayal, 2013), including reduced parent self-esteem (Charbonnier et al., 2019; Eaton et al., 2019; Özaslan & Yildirim, 2021). Additionally, parents' self-stigma can influence parents to focus more on their child's difficulties (Cheung et al., 2019; Li et al., 2019; Mikami et al., 2015) rather than their strengths, which may hinder their recognition of their positive attributes, thereby affecting their self-esteem. Alternatively, recognizing and utilizing personal strengths is associated with improved self-esteem across the general population (Park et al., 2004; Proctor et al., 2011; Wood et al., 2011). Thus, the contrast between the negative effects of parental self-stigma and the positive influence of recognizing children's strengths, highlights the potential of strengths recognition in mitigating the adverse effects of parental self-stigma on children's self-esteem, specifically in the ADHD community.

Furthermore, although some studies have examined aspects of positive psychology and parents' perceptions of their children with ADHD, the understanding of how parents' perceptions

relate to the self-esteem of children with ADHD is less understood. For instance, Miller and colleagues (2024) found that parents often report that their children with ADHD exhibit strengths comparable to their peers without ADHD. This study demonstrated that children with ADHD have similar strengths when compared to children without ADHD as reported by their parents; however, this study did not examine how parents' perception of strengths influenced the self-esteem of children. Lench and colleagues (2013) also found that parents with a positive outlook on ADHD had less negative and less frustrating interactions with their children compared to parents with a more negative view. These findings demonstrate the importance of an optimistic perception of a child's ADHD in fostering a more positive and supportive environment.

Bridging the Research Gap

A significant knowledge gap exists in understanding how parental self-stigma and the perceptions of strengths affect a child's self-esteem in the ADHD community. Further investigation is essential to understand how parental perceptions and children's recognized strengths contribute to children's self-esteem development. Identifying and focusing on the unique strengths of children with ADHD is critical for their well-being and self-esteem, influencing their success across various life domains. Moreover, discussing strengths can positively influence parents' emotional state and outlook, fostering a more positive parent-child relationship. Addressing this research gap could provide valuable insights for developing more effective interventions and support mechanisms for children with ADHD and their families. The current study aims to contribute to this ongoing shift by exploring the influence of parent and child-reported strengths on child self-esteem and parental self-stigma in the ADHD community.

Current Study

The current study aims to bridge the research gaps in understanding the influence of parents' self-stigma on the self-esteem of children with ADHD and how the strengths reported by both parents and children influence the relationship between parent self-stigma and children's self-esteem. Despite the growing body of research on ADHD, the relationship between parent's self-stigma, children's strengths, and self-esteem remains unexplored. Thus, the current study seeks to address the gap by investigating the effects of parent self-stigma, including self-shame, self-blame, and self-beliefs of being a bad parent, on children's self-esteem. By examining the relationship between parents' self-stigma and the perceptions of strengths, this study hopes to contribute to a more nuanced understanding of the dynamics of parents' self-stigma within families of children with ADHD.

Research Questions and Hypotheses

To address the research gaps previously noted, the following research questions were posed:

1. What are the levels of parents' self-stigma (including self-blame, self-shame, and bad parent self-beliefs), parent and child-reported strengths, children's self-esteem, in a population of children with ADHD? What are the relationships between these variables?

Hypotheses. It is hypothesized that parents' self-stigma will negatively correlate with children's self-esteem and perceptions of children's strengths (rated independently by both parents and children). Each aspect of parents' self-stigma (self-blame, self-shame, bad-parent beliefs, and total self-stigma) is hypothesized to affect children's self-esteem negatively.

Furthermore, it is proposed that there will be positive correlations between parents' perception of their child's strengths, children's perception of their own strengths and children's self-esteem.

The negative correlations between parents' self-stigma and children's self-esteem, as well as the negative correlation between parents' self-stigma and perception of strengths, are supported by SLT (Bandura, 1977), and studies that have examined the adverse impact of stigma on self-esteem (Catalano et al., 2021; Corrigan et al., 2016), and the adverse influence of self-stigma on individuals diagnosed with ADHD and their families (Charbonnier et al., 2019; Jelinkova et al., 2024; Masuch et al., 2019). Additionally, studies have demonstrated that parents' self-stigma is associated with adverse childhood outcomes, emphasizing the adverse effects of parents' self-stigma (Drent et al., 2022; Li et al., 2019). Furthermore, the positive correlation between parents' perception of their child's strengths, children's perception of their strengths, and the child's self-esteem is supported by research that has found that recognizing and nurturing the strengths of children has emotional benefits for parent and child (Mikami et al., 2015; Wagner et al., 2020; Waters, 2011, 2015). Lastly, the hypothesis that different aspects of parents' self-stigma (self-blame, self-shame, and bad-parent beliefs) have varying adverse effects on children's self-esteem is supported by research that suggests there are differences between the various types of parent self-stigma that parents experience (Eaton et al., 2018, 2019) and the adverse effects that parent self-stigma has on childhood outcomes (Chan et al., 2023; Li et al., 2019).

2. How does parents' total self-stigma influence children's self-esteem, after controlling for child age, child gender, and parent education level? How does the combined effect of child-reported strengths and parent-reported strengths influence children's self-esteem, beyond the effects of child age, child gender, parent education level, and parents' total self-stigma?

Hypotheses. It is hypothesized that higher levels of parent's total self-stigma will be associated with lower levels of children's self-esteem, after controlling for child age, child

gender, and parents' education level. In addition, it is hypothesized that perceived children's strengths (reported by both parent and child) will explain a greater proportion of variance in children's self-esteem compared to the model that only includes parents' total self-stigma and demographic variables. Lastly, it is hypothesized that child-reported strengths will have a stronger positive effect on children's self-esteem compared to parent-reported strengths.

Similar to research question one, these hypotheses are grounded in existing literature and theories, including SLT (Bandura, 1977), which suggests that parental attitudes and behaviours play an essential role in children's self-esteem development, such that children may observe and internalize parents' negative attitudes associated with high levels of parent self-stigma, resulting in lower self-esteem. In addition, parents' misconceptions and self-stigma about ADHD has been associated with adverse child outcomes through adverse parenting practices (Laugesen et al., 2016; Mikami et al., 2015), and reduced help-seeking behaviours (Taylor & Antshel, 2021). However, this research question also considers the combined effect of child-reported and parent-reported child strengths. For children with ADHD, focusing on their strengths can have positive outcomes for their well-being (Climie & Mastoras, 2015). Furthermore, children's self-reported strengths may protect against the negative impact of parent self-stigma. Specifically, children who are aware of their strengths and can articulate them may be more resilient in adverse challenges (Seligman, 2011; Seligman & Csikszentmihalyi, 2000). Consequently, the child's resilience and focus on their strengths may positively support higher self-esteem levels (Park et al., 2004; Toback et al., 2016; Wood et al., 2011).

Furthermore, recognition of children's strengths can also benefit parents by helping them balance their perspectives and foster a more optimistic view of their child (Climie & Henley, 2016). Thus, when both parents and children recognize and report the child's strengths, it may

mitigate the adverse effects of parental self-stigma, aligning with SLT's emphasis on observational learning and reinforcement, where positive reinforcement of strengths can lead to higher self-worth in children (Bandura, 1977).

3. Does parents' self-stigma mediate the relation between children's strengths and children's self-esteem, while controlling for child age, child gender, and parents' education level?

Hypotheses. Parents' perceptions of their child's strengths will have a direct positive effect on the child's self-esteem. In addition, parents' total self-stigma will have a negative direct effect on their children's self-esteem and parents' perceptions of children's strengths will have a direct negative effect on parents' total self-stigma. Lastly, it is hypothesized that parents report of their children's strengths will have a positive indirect effect on children's self-esteem through the mediation of parent's total self-stigma.

Similar to research question two, these hypotheses are grounded in SLT (Bandura, 1977). In addition, positive parenting and parents' positive perceptions of their children can reinforce their self-confidence, enhancing self-esteem (Felson & Zielinski, 1989; Harris et al., 2017; Krauss et al., 2020). Conversely, parent self-stigma can have adverse effects on childhood outcomes (Cheung et al., 2019; Li et al., 2019), and given the adverse influence of self-stigma on self-esteem (Catalano et al., 2021; Jelinkova et al., 2024), it is plausible that parents self-stigma may adversely influence their child's self-esteem. However, the perception of strengths, whether from parents or children, may serve as a protective factor (Liu & Wang, 2021; Proctor et al., 2011; von Kraemer et al., 2023) against the adverse effects of parent's self-stigma. Focusing on strengths can help parents balance their perspective, leading to a more optimistic view of their child (Climie & Henley, 2016). Similarly, Waters (2015) suggests that recognition of their children's strengths can promote positive emotions in parents and has been demonstrated to be

beneficial in challenging situations (von Kraemer et al., 2023). Consequently, parents' positive perceptions may foster a positive self-concept and resilience in both parent and child, potentially counteracting the negative effect of parental self-stigma and may positively support children's self-esteem.

Chapter 3: Methodology

The present project is a component of a broader study that explores the strengths, resilience, stigma, and perceptions of intelligence in children with ADHD, including both parent and child measures. However, only the measures pertinent to this specific study are included in the methodology below. The study was approved by the host institution's Conjoint Faculties Research Ethics Board (CFREB).

Participants

This study involved 63 parents (either a mother or a father, not both) and 63 children diagnosed with ADHD (see Table 1). The children's ages ranged from 8 to 17 years ($M = 10.83$, $SD = 2.52$), and most of the children were male (66.7%, $n = 42$), reflecting the ADHD population's typical gender distribution where boys are diagnosed approximately twice as often as girls (APA, 2022). Regarding race and ethnicity, 71.4% of the children identified as White/Caucasian/European ($n = 45$), while 17.5% ($n = 11$) identified as non-white, including First Nations, Metis, Indigenous, Latino/Hispanic, Asian, Middle Eastern, and those of mixed racial or national backgrounds (e.g., Canadian, Latino- European). Lastly, 11.1% ($n = 7$) of children had an unknown ethnicity. All child participants were diagnosed with ADHD. Most parents who participated were female ($n = 57$; 90.5%), a small proportion of parents did not specify their gender ($n = 1$; 1.6%), with the remaining parents identified as male ($n = 5$; 7.9%). Regarding the parents' race and ethnicities, 82.5% ($n = 52$) identified as White/Caucasian/European, while 17.6% ($n = 11$) identified as non-white, including First Nations, Metis, Indigenous, Latino/Hispanic, Asian, Middle Eastern, and mixed ethnic backgrounds. Additionally, parents' education level varied within the sample. A small portion of the parents, 3.2% ($n=2$), had a Highschool Diploma, while some parents had some college or

university education, making up 7.9% ($n=5$) of the sample. Parents with a College Diploma contributed a larger portion, 19.0% ($n=12$) with the largest group being those with a Graduate Degree, 30.2% ($n=19$), followed by those with an Undergraduate Degree, making up 27.0% ($n=17$) of the sample. Lastly, a small fraction of the sample, 1.6% ($n=1$), had attended Law School and 11.1% ($n=7$) of the parents held a Doctorate.

Participant Recruitment

The participant recruitment process involved using online posters and posts on social media platforms like Facebook. Information about the research study was also disseminated by community partners such as the Learning Disabilities Association of Alberta, CanLearn Society, and Foothills Academy. In addition, printed posters were displayed in local grocery stores and community buildings. Interested families contacted the research team and eligibility to participate was determined.

Inclusion Criteria

Parents completed a pre-screening survey before arranging a testing session to verify their child's eligibility for the study (see Appendix A). This survey collected information about the child's age, gender, and additional medical, health, or learning diagnoses for the child and their immediate family members. To qualify for the study, child participants must have been between 8.0 and 17.11 years of age and have a prior ADHD diagnosis made by a recognized mental health professional with diagnostic authority, such as a pediatrician, family physician, psychiatrist, or psychologist.

Furthermore, all participants needed to speak, write, and read English fluently. Participants were required to have an average or higher Full-Scale Intelligence Quotient Two-Subtest Form (FSIQ-2) score (i.e., a standard score of 80 and above), as determined by the

Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II; Wechsler, 2011) to ensure understanding of instructions or questions. In addition, children were required to have a previous diagnosis of ADHD and required to exhibit heightened symptoms of ADHD (i.e., a T-score equal to or above 65, indicating Elevated symptoms) as per the Conners-3 P(S) assessment, unless they were undergoing medication treatment. Participants on medication for ADHD were not required to meet the T-scores criteria of elevated symptoms. Lastly, due to the study's measures, only children without significant hearing or vision impairments could participate. Similarly, children with co-occurring gross motor or neurological diagnoses (e.g., cerebral palsy, ASD) were excluded from the study due to the neurological overlaps with ADHD.

Table 1*Demographic Information of Parent and Child Participants*

Rater	Child (<i>n</i> = 63)			Parent (<i>n</i> = 63)		
	<i>M</i>	<i>SD</i>	<i>n</i> (%)	<i>M</i>	<i>SD</i>	<i>n</i> (%)
Age (years)	10.83	2.51	63	--	--	--
Gender						
Male	--	--	42 (66.7)	--	--	5 (7.9)
Female	--	--	21 (33.3)	--	--	57 (90.5)
Did Not Specify	--	--	--	--	--	1 (1.6)
Ethnicity						
White/Caucasian	--	--	45 (71.4)	--	--	52 (82.5)
FNMI People	--	--	1 (1.6)	--	--	2 (3.2)
Latino/Hispanic	--	--	-	--	--	3 (4.8)
Asian Descent	--	--	-	--	--	3 (4.8)
Middle Eastern	--	--	1 (1.6)	--	--	1 (1.6)
Mixed Ethnicity	--	--	9 (14.3)	--	--	2 (3.2)
Not reported	--	--	7 (11.1)	--	--	--
Parent Education Level						
Highschool	--	--	--	--	--	2 (3.2)
Diploma						
Some	--	--	--	--	--	5 (7.9)
College/University						
College Diploma	--	--	--	--	--	12 (19)
Undergraduate	--	--	--	--	--	17 (27)
Degree						
Law School	--	--	--	--	--	1 (1.6)
Graduate School	--	--	--	--	--	19 (30.2)
Doctorate	--	--	--	--	--	7 (11.1)
ADHD Medication						
Yes	--	--	47 (74.6)	--	--	--
No	--	--	16 (25.4)	--	--	--
WASI-II						
FSIQ-2	111.02	11.60	63 (100)	--	--	--

Note. WASI-II = Wechsler Abbreviated Scale of Intelligence, Second Edition.

FSIQ = Full Scale IQ-2

Measures

Children and youth participants and their parents filled out surveys that collected information on demographics, self-stigma, strengths of the child, self-esteem, cognitive functioning, and ADHD symptoms, among other measures. These were part of a broader

research project examining strengths and stigma in ADHD. However, only the measures pertinent to this specific study will be outlined.

Demographic Questionnaire

Parents completed a demographics questionnaire, which included inquiries about the child's and family's demographic details, gender, ethnicity, age, health status, developmental background, and medical history (see Appendix B). Additionally, information about previous diagnoses, history of ADHD medication, and current medication usage was obtained. Similarly, the children provided details about their age, gender, ethnicity, ADHD condition, and understanding of ADHD (see Appendix C).

Parent Measures

The Conners Rating Scales – Third Edition, Parent Short Form (Conners-3 P(S); Conners, 2008). The Conners 3-P(S) is a standardized tool used by parents to assess ADHD symptoms in children aged between 6 and 18 years. The Conners-3 P(S) includes six scales including: Inattention, Hyperactivity/Impulsivity, Learning Problems, Executive Functioning, Aggression, and Peer Relations. The Parent Short form consists of 43 items in which parents rate their child's behaviour over the past month on a 4-point Likert scale, ranging from '*Not true at all (Never, Seldom)*' (0) to '*Very much true (Very often, Very Frequently)*' (3). The responses are then compared to a Canadian normed sample to generate a t-score. Past research has attested to the reliability of the Conners-3 P(S) (Conners, 2008; Kao & Thomas, 2010). Specifically, reliability tests have shown excellent Cronbach's alpha values for the content scales ($\alpha = .91$), symptom scales ($\alpha = .90$), and the validity scales ($\alpha = .90$) in the parent forms (Kao & Thomas, 2010). In the current study, the Conners-3 P(S) scores were used to verify the presence of ADHD symptoms in children with ADHD. The Conners-3 P(S) has demonstrated its ability to

distinguish between youth with ADHD and the general population with an accuracy rate of 77.61% (Conners, 2008). It's important to note that participants with ADHD who were on medication did not need to meet the previous specified symptoms severity threshold (i.e., T-score equal to or greater than 65), as medication tends to reduce the severity of ADHD symptoms (Craig et al., 2015; Johnson et al., 2021).

Parents' Self-Stigma Scale (PSSS; Eaton et al., 2019). The Parents' Self-Stigma Scale (PSSS; Eaton et al., 2019) was used to quantify the self-stigma experienced by parents. The PSSS divides parental self-stigma into three components: self-blame (the perception of causing or exacerbating their child's mental illness), self-shame (feelings of embarrassment or shame for having a child with a mental illness), and bad-parent self-beliefs (the perception of not meeting the standard of a "good parent").

The scale comprises 11 items, each rated on a 5-point Likert scale ranging from *never* (1) to *almost all the time* (5). The test authors developed the items based on prior literature and input from a participatory action research group. Further a partial confirmatory factor analysis was conducted by Eaton and colleagues (2019), to validate the exploratory factor analysis, and it was found that each item loaded at least 0.40 on its respective factor, suggesting overall internal reliability.

Convergent validity was assessed by comparing the PSSS measures with scores on the Rosenberg Self-Esteem Scale (Rosenberg, 1965) and the Empowerment Scale (Rogers et al., 1997). The results demonstrated that all three of the measures on the PSSS significantly and negatively correlated with measures of self-esteem and empowerment (Eaton et al., 2019), aligning with the predicted results and thus providing evidence for convergent validity. For the purposes of this study, the items were rephrased to be specific to ADHD (for example, "My child

has his/her problem because of me" was altered to "My child has his/her ADHD because of me").

Behavioural and Emotional Rating Scale – 2nd Edition, Parent Form (BERS-2; Epstein, 2004). The Behavioral and Emotional Rating Scale – 2nd Edition, Parent Form (BERS-2; Epstein, 2004) was utilized to measure parent's perceptions of their children's strengths in the current study. The BERS-2 assesses parents' perceptions of their child's strengths and competencies for children aged between five and 18 years. The measure comprises 59 items that evaluate the child's interpersonal strength, family involvement, intrapersonal strength, school functioning, affective strength, and career strength, and a total strengths composite. However, the career strengths questions were not administered as they were not applicable to the current participant sample. The Interpersonal Strength subscale evaluates the child's ability to regulate emotions or behaviours in social situations (e.g., *is okay with being told "no"*). The Family Involvement subscale assesses the child's participation in and relationship with the family (e.g., *is involved in family pastimes*). The Intrapersonal Strength subscale broadly measures the child's perspective on their competence and achievements (e.g., *is excited about their life*). The School Functioning subscale focuses on the child's competence in school (e.g., *follows along in class*). The Affective Strength subscale measures the child's ability to accept and express affection (e.g., *accepts physical touch in the form of a hug*). Parents were asked to rate their child's positive behaviours and emotions over the past three months on a 4-point Likert scale. Parents rated a statement as a 0 if they thought it was not at all like their child, a one if it was not much like their child, a two if it was like their child, and a three if the statement was very much like their child. For this study, only the total strengths composite was used in the analysis to understand the parents' perceptions of their children's overall strengths. In terms of interpretation, a Strength

Index score below 79 is considered poor strengths, scores 80-89 are considered below average, 90-110 is considered average, 111-120 is above average, 121-130 is considered superior and scores above 130 are considered very superior.

The BERS-2 has demonstrated acceptable test-retest reliability with coefficients of .80 to .94 (Mooney et al., 2005). Convergent validity was assessed by comparing the BERS-2 Parent Rating (PR) to the Social Skills and Rating System (SSRS; Gresham & Elliott, 1990) and the Child Behavior Checklist (CBCL; Achenbach, 1991a). All correlation coefficients between the parent forms of the BERS-2 and SSRS were statistically significant, and most correlation coefficients between the BERS-2 and CBCL were significant, indicating evidence for convergent validity (Mooney et al., 2005). The BERS-2 parent form also demonstrated strong internal consistency with coefficients of .84 to .93 (Buckley et al., 2006).

Child Measures

Wechsler Abbreviated Scale of Intelligence, Second Edition (WASI-II; Wechsler, 2011). The WASI-II is a standardized condensed form of the Wechsler Intelligence Scales and is a measure of intelligence (Wechsler, 2011). This measure is designed for individuals aged between 6 and 90 years old. The WASI-II comprises four subtests: Vocabulary (describing items), Block Design (using blocks to create designs), Matrix Reasoning (solving visual patterns), and Similarities (describing how two items are alike). In addition, the WASI-II also provides Full-Scale Intelligence Quotient 2 (FSIQ-2) scores derived from a two-subtest administration involving Matrix Reasoning and Vocabulary. Given the virtual data collection utilized for the current study (necessitated by the Covid-19 pandemic), the full four-subtest administration, which includes physical manipulatives, was not practical. Therefore, the two-subtest method was administered, which is better suited for online assessment. As the two-

subtest method excludes physical interaction, it aligned well with the remote testing requirements at the time of data collection and provided a reliable measure of the participant's cognitive abilities via a remote setting.

The WASI-II was normed using a sample of 2,300 individuals between 6 and 90 years, reflecting the gender, age, race/ethnicity, geographical location, and education level of the United States at the time of norming. The WASI-II has been found to have good to excellent reliability ($\alpha = .87$ to $.97$) for subtest scores and excellent coefficients ($\alpha = .93$ to $.94$) for the simplified FSIQ-2 measure used in the current study (Wechsler, 2011). Test-retest assessments also found acceptable to excellent stability coefficients for the subtests ($\alpha = .79$ -. 90 ; McCrimmon & Smith, 2013) and composites ($\alpha = .87$ -. 95 ; McCrimmon & Smith, 2013).

Furthermore, the WASI-II demonstrated excellent interrater reliability across subtests ($\alpha = .94$ -. 99), validating the use of multiple examiners in this study (McCrimmon & Smith, 2013). From a validity standpoint, the WASI-II demonstrated acceptable to excellent correlations ($r = 0.71$ - 0.92) with comparable measures, including the original WASI, the Wechsler Intelligence Scale for Children – Fourth Edition (WISC-IV; Wechsler, 2003), and Wechsler Adult Intelligence Scale – Fourth Edition (WAIS-IV; Wechsler, 2008), providing evidence for concurrent validity (McCrimmon & Smith, 2013).

Only participants who had a standard score of 80 or higher (low average range and above) on the FSIQ-2 scores were included in this study. This criterion was set to ensure that the participants fully understood the questions they were being asked and that the results obtained were not influenced by lower cognitive abilities.

Behavioural and Emotional Rating Scale – 2nd Edition, Child Form (BERS-2; Epstein, 2004). The Behavioral and Emotional Rating Scale – 2nd Edition, Child Form (BERS-

2; Epstein, 2004) was utilized to understand the self-reported strengths of children with ADHD in the current study. The BERS-2 is designed to assess personal strengths and competencies from the perspective of children aged five to 18 years. It comprised 52 items that evaluate five core areas: the child's interpersonal strength, family involvement, intrapersonal strength, school functioning, affective strength, and a composite score of total strength (strength index; Epstein, 2004). The descriptions of these domains align with those in the parent form. Like the parent form, career strengths were not assessed due to the age of the child participants. In addition, only the total strengths composite score was analyzed in the current study to provide a more holistic view of the child's strengths. The 4-point Likert Scale for the child form mirrors the parent form. The 4-point Likert Scale for the child form mirrors the parent form.

The BERS-2 child form was normed on 1301 children (Buckley et al., 2006). The internal consistency of the five subscales ranged from .79 to .88, and the test-retest reliability for the strengths index varied between .84 to .91 (Epstein, 2004). A confirmatory factor analysis validated the five-factor structure (Buckley et al., 2006). Convergent validity was established by comparing the BERS-2 child form with the Child Behavioural Checklist (CBCL) and the Symptoms Functioning Severity Scale (Hurley et al., 2015).

Rosenberg's Self-Esteem Scale (RSES; Rosenberg 1965). The Rosenberg's Self-Esteem Scale (RSES; Rosenberg, 1965) was used to gauge self-esteem in children with ADHD in the current study. The RSES is a 10-item scale that captures both positive and negative aspects of self-worth. Responses are recorded on a 4-point Likert scale, ranging from *Strongly Disagree* (0) to *Strongly Agree* (3). Using the RSES, children's total self-esteem scores were calculated by summing the scores of each participant. The scores could range from 0-30, with higher scores indicating higher self-esteem. Individuals scoring between 0-14 points were classified as having

lower self-esteem; scores between 15-20 points indicated moderate self-esteem, while 21-30 points were considered high. Since its initial creation in 1965, the RSES has been extensively applied across diverse populations and countries (Rosenberg, 1965; Schmitt & Allik, 2005).

Research indicates that the RSES is a valid and reliable tool for assessing self-esteem in adolescents with ADHD (Dittmann et al., 2009). Specifically, Cronbach's alpha measures for the RSES ranged from .87-.90, indicating good to excellent internal consistency (Dittmann et al., 2009). Moreover, scores on the RSES showed predictable correlations with scores on the Global Impression of Perceived Difficulties, thereby providing evidence for convergent validity (Dittmann et al., 2009). Previous research also suggests that the mode of administration (computer vs. paper and pencil) does not alter the psychometric properties of the RSES, thus supporting online administration as was done in this study (Vispoel et al., 2001).

Covariates

In the current study, several factors were considered as covariates due to their potential influence on the relationships being examined. These covariates were selected based on their relevance to the study population and the constructs of interest, as well as previous research indicating their potential impact on parent self-stigma, child strengths, and child self-esteem in children with ADHD.

Child gender was included as a covariate due to its potential relationship with child's self-esteem (Helwig & Ruprecht, 2017; Wagner et al., 2013; Zuckerman et al., 2016), and parent self-stigma of parents of children with ADHD, such that parents of boys reported higher parent self-stigma (Charbonnier et al., 2019; Jelinkova et al., 2024). Another important covariate was the age of the child, which was included for its potential influence on children's self-esteem and parents' perception of their children. Specifically, as children develop, they experience a variety

of developmental milestones that may influence their self-esteem (Helwig & Ruprecht, 2017; Orth et al., 2018) and alter their parents' perceptions and expectations (Pinquart & Ebeling, 2020). Furthermore, parent education was also included as a covariate, as previous research suggests an association between parent education level and self-stigma in parents (Özaslan & Yıldırım, 2021).

Procedure

Prior to participation, parents were sent a brief pre-screening survey (less than 10 minutes) to determine if their child was eligible to participate in the study. Upon confirmation of eligibility, consent was obtained from the parent/guardian and assent from the child (see Appendix D). Subsequently, parents/guardians were given a link to a Qualtrics survey containing all parent measures, including the demographic questionnaire, the PSSS, the BERS-2 PR, and other measures pertinent to the broader project.

Parents/guardians were given a two-week window to complete the measures. In the same email that provided the survey link, a date and time were scheduled for the child to complete the child-based measures online via secure Zoom accounts. Researchers interacted one-on-one with the child during these sessions, utilizing Qualtrics for survey-based questions. At the beginning of the Zoom call, the researcher provided the child participant with more information and acquired assent before starting. After assent, the researchers would orally present the instructions and queries to guarantee understanding and focus. The children would then give their answers aloud, and the researcher would record them on the survey. Like the parents, all child measures were in an online survey, including the BERS-2 and the RSES. The demographic questions were always presented first, followed by the remaining measures in a randomized order. The WASI-II was the only measure not included in the survey and was administered by the researcher, who

kept the measure in a separate PDF file. Throughout the session, the children were reassured about the privacy of their responses and had chances to inquire further.

The session concluded with administering the WASI-II to assess the child's cognitive score. For the WASI-II completion, the stimulus book was displayed on the monitor. Apart from this minor modification, the WASI-II was conducted in compliance with the guidelines provided in its manual. If the child's intellectual functioning was classified as Average or above, the session continued. All measures were typically completed within one day, with occasional sessions extending over two days. Breaks were provided for children at an appropriate time as needed. At the session's conclusion, the child was offered an additional chance to pose questions and discuss their impressions of the activities. After completing all the measures, parents were emailed a debrief and sent a \$25 gift card of their choice as an acknowledgement of their family's participation in the project.

Chapter 4: Results

Data Preparation

Data was screened and cleaned using IBM SPSS Statistics for Windows (Version 29). Following data cleaning, descriptive statistics were computed and analyzed. During the data screening process, certain participants were excluded based on specific criteria. Specifically, three participants were excluded due to FSIQ-2 scores being below average on the WASI-II. Additionally, one participant was excluded as they did not meet the Conners-3 P(S) criteria as their t-score was below the threshold of sixty-five and they were not medicated. Furthermore, two participants were dropped due to incomplete questionnaires; one participant was missing the parents' self-stigma questionnaire, and the other was missing the child self-esteem questionnaire.

The analyses included sixty-three parent-child dyads. All variables were thoroughly examined for missing data, impossible values, and out-of-range values. The means and standard deviations of all variables were within the expected range. Additionally, the skewness and kurtosis of all variables were within the acceptable range of -2 to +2 and -7 to 7 respectively (Byrne & van de Vijver, 2010; Field, 2009). Outliers were assessed by visually examining each variable's boxplot and converting scores to standardized values. No extreme outliers were found on any measures and all measures were within the normal range, -3.25 to 3.25 standard deviations from the mean (Tabachnik & Fidell, 2013); as such, no outliers were removed. No missing data was found.

Assumption testing was conducted to assess linearity, normality, multicollinearity, and homoscedasticity. The Durbin-Watson test, with a value of 2.25, indicated no serial correlations in the residuals, thereby satisfying the assumption of independent error. The p-value for the test was 0.48, greater than the typical significance level of 0.05, further supporting the conclusion

that there was no significant autocorrelation in the residuals. Multicollinearity was assessed using variance inflation factor (VIF) statistics. The variances in the regression were within the acceptable range for the VIF statistics as the VIF was less than 5, and collinearity tolerance suggests no serious multicollinearity as the tolerance was greater than 0.8 for each model evaluating the relationships with self-esteem.

Visual inspection of histograms and scatterplots indicated that the error distributions were normal, and that variance was evenly distributed. Plots of standardized regression residuals indicated that the relationship between self-esteem and the predictor variables was linear, indicating that the assumption of linearity was met. Furthermore, diagnostic plots for the linear regression were analyzed. The residual versus fitted plot suggested that the assumption of linearity and homoscedasticity were met, as the red line was horizontal at zero across the range of fitted values. The Normal Q-Q plot indicated that the residuals were normally distributed, as they followed the reference line. The Scale-Location plot suggested that the variances of the error terms were equal. Finally, the Residuals versus Leverage plot did not reveal any influential cases. Following data preparation, all statistical analyses were conducted in R.

It is important to note that the findings of the current study are exploratory in nature. Consequently, corrections for multiple analyses, such as Bonferroni corrections, were not applied. It is acknowledged that this is a limitation of the results. Readers should interpret the findings with caution, considering the potential for Type I errors due to the lack of adjustments for multiple comparisons.

Research Question 1: Correlations between Variables

Table 2 shows the bivariate correlations between parent self-stigma, parent-reported strengths, child-reported strengths, and child self-esteem, in a population of children with ADHD and their parents. The analyses revealed several significant relationships between the variables.

Child Self-Esteem and Child Reported Strengths

Pearson correlation analyses revealed significant positive correlations between child self-esteem ($M = 19.77$, $SD = 4.41$) and child-reported strengths ($M = 92.03$, $SD = 15.16$), $r(61) = .65$, $p < .001$, and a weak correlation between child self-esteem and parent-reported child strengths ($M =$, $SD =$), $r(61) = .26$, $p < .05$. Additionally, a weak positive correlation was found between parent-reported child strengths ($M = 86.06$, $SD = 14.79$) and child-reported strengths, ($r(61) = .26$, $p < .05$).

Parent Self-Stigma

A significant negative correlation was found between parents' total self-stigma ($M = 1.91$, $SD = .53$) and children's self-esteem ($r(61) = -.29$, $p = .02$). In examining the correlation between child self-esteem and individual subscales of parent self-stigma, self-blame ($M = 2.05$, $SD = .78$) showed a significant negative, weak correlation with child's self-esteem ($r(61) = -.34$, $p < .01$), while parent self-shame ($M = 1.48$; $SD = .65$) and bad parenting self-beliefs ($M = 2.17$; $SD = .74$) did not show significant correlations ($r(61) < .01$, $p = .98$ and $r(61) = -.12$, $p = .34$, respectively).

Furthermore, parents' total self-stigma also demonstrated a significant negative correlation with child-reported strengths ($r(61) = -.27$, $p = .03$). Similarly, parent self-blame had a significant weak and negative correlation with child-reported strengths ($r(61) = -.32$, $p = .01$),

whereas parent self-shame ($r(61) = -.01, p = .91$), and bad parenting self-beliefs ($r(61) = -.09, p = .47$) did not show significant correlations.

Additionally, in terms of parents report of children’s strengths, parents’ total self-stigma had a negative correlation with parent-reported child strengths ($r(61) = -.39, p < .01$), with individual subscales of parent self-stigma also indicating significant negative correlations, parent self-blame ($r(61) = -.27, p < .05$), parent self-shame ($r(61) = -.36, p < .01$), and bad parenting self-beliefs ($r(61) = -.29, p = .02$).

Table 2

Correlations between Parents Self-Stigma, Perception of Strengths, and Children’s Self-Esteem

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1.Child Self-Esteem ^a	19.77	4.41	-						
2.Child-Reported Strengths ^b	92.03	15.16	.65**	-					
3.Parent-Reported Strengths ^b	86.06	14.79	.26*	.26*	-				
4.PSSS Total ^a	1.91	.53	-.29*	-.27*	-.39**	-			
5.PSSS Self-Blame ^a	2.05	.78	-.34**	-.32**	-.27*	.90**	-		
6.PSSS Self-Shame ^a	1.48	.65	<.01	-.01	-.36**	.47**	.13	-	
7.PSSS Bad-Parent ^a	2.18	.74	-.12	-.09	-.29*	.52**	.24	.28*	-

Note. PSSS Parents’ Self-Stigma Scale; ^a total score ^b standard score

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Research Question 2: Impact of Parent-Reported and Child-Reported Strengths and Parents Self-Stigma on Children’s Self-Esteem

The primary aim of research question two was to investigate the combined impact of child and parent reported child strengths on children’s self-esteem, while also considering the influence of parental self-stigma and covariates (child age, child gender, and parent education level). A three-step hierarchical regression analysis was conducted to examine the predictors of child self-esteem.

Model 1 Covariates. In the initial stage of the hierarchical regression analysis, the covariates (child age, child gender, and parent education level) were incorporated to assess their impact on children's self-esteem. The results indicated that the demographic variables accounted for a small proportion of variance in the child's self-esteem scores ($R^2 = .09$, $F(3, 59) = 2.04$, $p = .12$, $adj. R^2 = .05$) and explained approximately 9.4 % of the variability in children's self-esteem. However, none of the control variables were significant predictors of self-esteem in this sample. More specifically, child age exhibited a negative but statistically non-significant effect on self-esteem ($\beta = -.18$, $p = .16$). Similarly, child gender had a small negative, approaching a statistically significant effect on self-esteem ($\beta = -.23$, $p = .07$). Lastly, the effect of parent education level on self-esteem was positive but not statistically significant ($\beta = .01$, $p = .91$).

Model 2 Addition of Parent-Self-Stigma. In the second regression stage, parent's total self-stigma, was added to the model. When child age, gender, and parent education level were held constant, the model of parent total self-stigma explained a statistically significant and substantial proportion of variance in self-esteem ($F(4, 58) = 5.31$, $p < .001$, $adj. R^2 = .22$). The addition of parent self-stigma significantly improved the model's ability to predict child's self-esteem, explaining nearly 27% of the variance ($R^2 = .27$), in self-esteem, suggesting that parents' total self-stigma explains an additional 18% of the variance in self-esteem ($R^2 \Delta = .18$). Within the model, higher parent total self-stigma was associated with lower self-esteem ($\beta = -.46$, $p < .001$). Additionally, the negative effects of child age and gender on self-esteem become significant ($\beta = -.28$, $p = .02$; $\beta = .34$, $p < .01$, respectively)

Model 3 Addition of Child-Reported and Parent-Reported Strengths. In the third stage, child-reported and parent-reported strengths were added to the model. The model was statistically significant and explained a substantial proportion of the variance in self-esteem (R^2

= .50, $F(6, 56) = 9.41$, $p < .001$, adj. $R^2 = .45$), accounting for approximately 50 % of the variance in self-esteem. Including child-reported and parent-reported strengths explained an additional 23% of the variance in self-esteem ($R^2_{\Delta} = .23$). In the third model, parent self-stigma and child-reported strengths were statistically significant ($p < .05$). Child-reported strengths had the strongest positive effect in predicting self-esteem ($\beta = .56$, $p < .001$), while parent-reported child strengths had a negligible effect on children's self-esteem ($\beta = -.02$, $p = .87$) and was not a significant predictor within the model. Alternatively, parents' total self-stigma remained significant in the final model, however its negative effects on self-esteem are reduced from having a negative medium effect in model 2 ($\beta = -.46$, $p < .001$) to having a small effect in model 3 ($\beta = -.24$, $p = .05$). Lastly, child age remains a significant predictor of self-esteem ($\beta = -.27$, $p = .01$), while child gender and parents' education level are not significant predictors in the final model.

Table 3

Hierarchical Regression of Parents Self-Stigma and Perception of Child Strengths on Children's Self-Esteem

Predictor Variables	R^2	F	b	β	t	p
Step 1:	.09	2.04	25.88		7.97	.12
Control Variables	Child Age		-.32	-.18	-1.44	.16
	Child Gender		-2.15	-.23	-1.86	.07
	Parent Education		.04	.01	.12	.91
Step 2:	.27	5.3	37.67		8.70	< .001
Total			-.49	-.28	-2.38	.02
Parent Self-Stigma	Child Gender		-3.16	-.34	-2.92	< .01
	Parent Education		-.27	-.10	-.87	.39
	PSSS total		-3.77	-.46	-3.71	< .001
Step 3:	.50	9.4	16.36		2.52	< .001
Perception of Child Strengths	Child Age		-.47	-.27	-2.54	.01
	Child Gender		-.95	-.10	-.94	.35
	Parent Education		-.21	-.08	-.80	.43
	PSSS total		-2.00	-.24	-2.05	.05
	Child-Reported Strengths		.16	.56	5.05	< .001
	Parent-Reported Child Strengths		-.01	-.02	-.17	.87

Research Question 3: Mediation of Parents Self-Stigma

A mediation analysis was conducted to examine the indirect effects of parents' perceptions of their children's strengths on their children's self-esteem, through parent self-stigma, while controlling for child age, child gender, and parents' education level. The analysis was performed using a nonparametric bootstrap method with one thousand simulations to estimate the confidence intervals and utilized the Maximum Likelihood (ML) estimator and the NLMNB optimization method. The model, composed of fourteen parameters, was based on a sample of sixty-three observations. After 20 iterations, the model reached a state of normal termination. Several fit indices were computed to understand the fit of the model and suggest a poor fit of the data ($\chi^2(7) = 14.89, p = .04$, Comparative Fit Index (CFI) = .80, Tucker-Lewis

Index (TLI) = .57, Root Mean Square Error of Approximation (RMSEA) = .13, Standardized Root Mean Square Residual (SRMR) = .10).

The direct effect of parents' report of children strengths on children's self-esteem was positive but not statistically significant ($\beta = .12$, $SE = .04$, $t(61) = 1.32$, $p = .08$, 95% CI [-.02, .12]). However, the direct effect of parents' perceptions of their children's strengths on parents' total self-stigma was statistically significant and negative ($\beta = -.33$, $SE < .01$, $t(61) = -3.34$, $p < .01$, 95% CI [-.03, -.003]). These results suggest that as parents' perception of their children's strengths increases, parents' total self-stigma decreases. Additionally, parents' total self-stigma was a significant and negative predictor of children's self-esteem ($\beta = -.31$, $SE = 1.24$, $t(61) = -3.23$, $p = .01$, 95% CI [-5.25, -.18]). The indirect effect of parents' perceptions of their children's strengths on children's self-esteem, through parents total self-stigma was positive and significant ($\beta = .12$, $SE = .02$, $t(61) = 2.16$, $p = 0.03$, 95% CI [.001, .08]), while the total effect of parents perception of their children's strengths on children's self-esteem was non-significant ($\beta = .21$, $SE = 0.04$, $t(61) = 1.77$, $p = 0.08$, 95% CI [.01, .15]). Bootstrap analysis with 1000 draws confirmed the significance of the indirect effect (95% CI [.001, .08]) and the total effect (95% CI [.01, .15]), suggesting that parent's total self-stigma mediates the relationships between parents report of their children's strengths and children's self-esteem.

Additionally, the covariates of child age, child gender, and parents' level of education were included in the model. Child age on parents report of their children's strengths, ($\beta = -.26$, $SE = .71$, $t(61) = -2.14$, $p = .03$, 95% CI [-2.81, -.06]), child's gender and child age on children's self-esteem ($\beta = -.33$, $SE = 1.04$, $t(61) = -3.04$, $p < .01$, 95% CI [-5.33, -1.09], $\beta = -.23$, $SE = .04$, $t(61) = -2.05$, $p = .04$, 95% CI [-.13, .03], respectively), and child's gender on parents total self-stigma were significant predictors ($\beta = -.23$, $SE = .13$, $t(61) = -1.97$, $p < .05$,

95% CI [-.49, .001]), while parents' level of education on parents' self-stigma was nonsignificant ($\beta = -.15$, $SE = 0.04$, $t(61) = -1.36$, $p = .18$, 95% CI [-.13, .03]).

Table 4

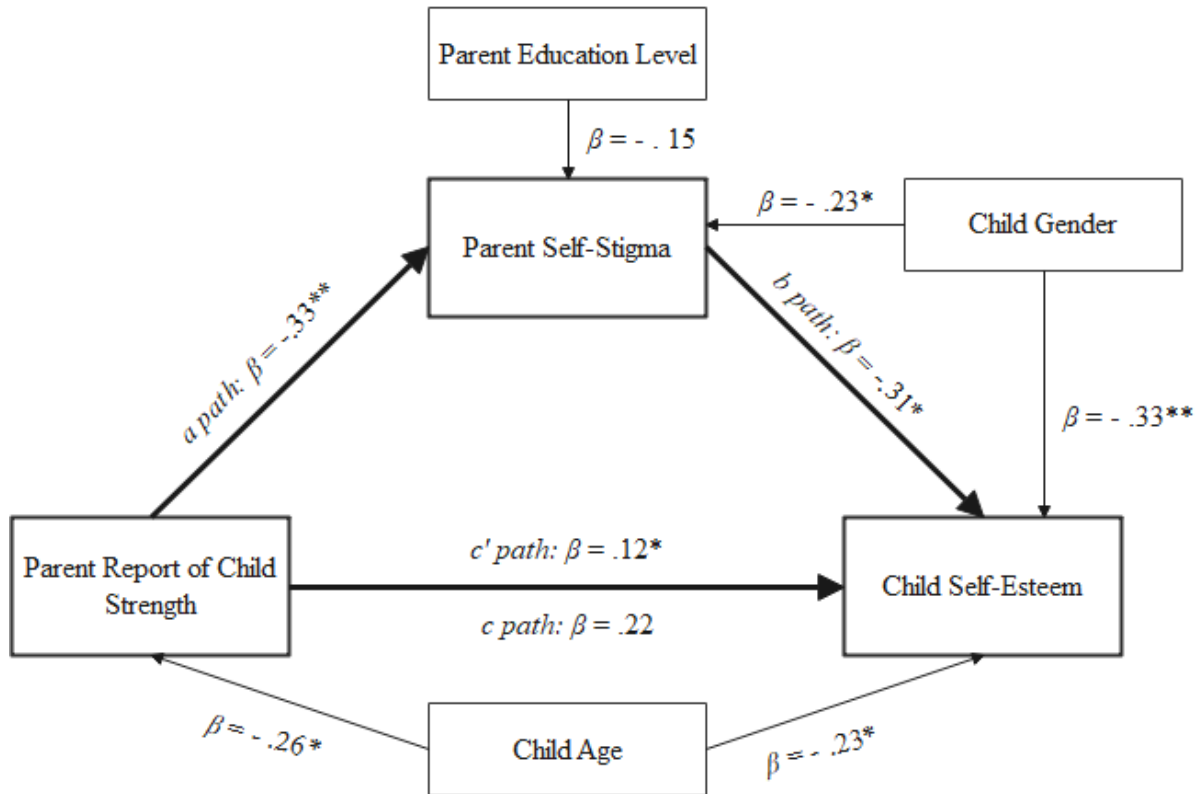
Mediation Model Between Parent-Reported Child Strengths and Child Self-Esteem, Mediated by Parents' Total Self-Stigma

Variable	β	SE	[95% CI]	p
Direct Effects				
Parent Reported Child Strengths → Child Self-Esteem	.22	.04	[.02, .12]	.08
Parent Reported Child Strengths → PSSS total	-.33	<.01	[-.01, -.003]	<.01
PSSS total → Child Self-Esteem	-.31	1.14	[-5.25, -.17]	.03
Indirect Effects				
Parent Reported Child Strengths → Child Self-Esteem	.12	.02	[.001, .08]	.03
Total Effects				
Parent Reported Child Strengths → Child Self-Esteem	.21	.04	[.01, .15]	.08
Control Variables				
Child Age → Parent Reported Child Strengths	-.26	.71	[-2.81, -.06]	.03
Child Gender → Child Self-Esteem	-.33	1.03	[-5.33, -1.09]	<.01
Child Age → Child Self-Esteem	-.23	.20	[-.13, .03]	.04
Child Gender → PSSS total	-.23	.13	[-.49, .001]	<.05
Parent Education Level → PSSS total	-.15	.04	[-.13, .03]	.18

Note. CI = confidence interval

Figure 1

Mediation Model Between Parent-Reported Child Strengths and Child Self-Esteem, Mediated by Parents Total Self- Stigma



Note. Demographic factors were included as control variables. Statistics are standardized beta coefficients. * $p < .05$, ** $p < .01$

Chapter 5: Discussion

The results of the current study provide valuable insights into the self-stigma of parents, the self-esteem of children, and the levels of perceived strengths of children with ADHD from both the child's and parents' perspectives. The purpose of the current study was to explore the relationships between parent's self-stigma (including self-blame, self-shame, bad-parent self-beliefs and total stigma), the potential protective factor of perceptions of the children's strengths, as reported by both the parents and children, and children self-esteem in a population of children with ADHD and their parents. A multi-stage statistical analysis approach encompassed descriptive statistics, correlation analysis, hierarchical multiple regression analysis, and mediation analysis. Results revealed several significant relationships between variables, providing valuable insights into the dynamics within families of children with ADHD.

Research Question One

Child Self-Esteem and Child Reported Strengths

Research question one examined the correlations between parent self-stigma, parent-reported child strengths, child-reported strengths, and child self-esteem in a population of children with ADHD and their parents.

Strengths. A significant positive correlation was found between the perception of children's strengths, as both parents and children reported, indicating a positive relationship between how parents and children perceive the child's strengths. However, the correlation was weak, suggesting that while there is some positive agreement, there are also potential differences in perception. Interestingly, it was found that children's overall strengths index score fell in the average range. In contrast, parents rated their children's strengths in the below-average range, suggesting that they tend to report slightly lower levels of their child's strengths than their

children's reports. The findings align with Miller et al. (2024), which found similar discrepancies between the mean scores of parent and child perceptions of strengths. However, the differences were not statistically significant when Miller and colleagues (2024) analyzed the differences between child and parent reports of the child's strengths through independent samples t-tests. Thus, the lack of statistical difference indicates that perceptions of overall strengths between parent and child are not statistically different from each other. While the current study used correlation to examine the relationships between parent and child's perceptions of the child's strengths, other studies, such as Miller et al. (2024), used independent t-tests to compare mean scores, the overall findings are consistent as both approaches indicate a positive relationship and that there is some level of agreement between parent and child perceptions of strengths.

The positive correlation between parent and child perceptions of the child's strengths may be explained by strengths-based parenting approaches and SLT. Strengths-based parenting emphasizes focusing on positive attributes and capabilities of the child (Waters, 2017). According to Kou (2022), consistent positive parenting practices, such as warmth, positive feedback and acknowledgment of children's efforts and achievements, help foster a sense of self-worth and confidence. Thus, when parents recognize and highlight their child's strengths, it may reinforce the child's self-awareness and confidence in their abilities.

Furthermore, positive reinforcement and open communication are essential in fostering a supportive environment that benefits children's well-being (Hardy & McLeod, 2020). Positive interactions and communication may lead to a shared understanding of the child's strengths, resulting in a positive correlation between parent and child perceptions of strengths. Additionally, SLT suggests that children learn through observation and imitation (Bandura, 1977). Therefore, when parents consistently acknowledge and celebrate their child's strengths,

children may internalize these positive messages, aligning their self-perceptions with their parents' views. Together, the positive relationship between parent and child's perception of the child's strengths, supported by strengths-based approaches and SLT, highlight the crucial role of positive reinforcement and open communication in fostering shared understanding of the child's strengths.

Self-Esteem. The current study found a strong positive correlation between child self-esteem and child-reported strengths, supporting the initial hypothesis and suggesting that children who perceive themselves as having more strengths tend to have higher self-esteem. The results align with existing literature emphasizing the importance of personal competencies in fostering positive self-perceptions in children (Massoodi et al., 2024; Miller et al., 2024). Previous studies have indicated that individuals who are aware of their strengths and utilize them regularly tend to have higher levels of self-esteem (Park et al., 2004; Toback et al., 2016; Wood et al., 2011). Furthermore, the current study extends the literature by focusing specifically on children with ADHD and the positive relationship between their self-perceived level of strength and their self-esteem. The finding is particularly significant as it highlights the unique experiences of children with ADHD and emphasizes the importance of self-perception in their emotional well-being.

The positive relationship between children's perceptions of strengths and their self-esteem may be attributed to the framework of positive psychology. Specifically, children who recognize and value their strengths are more likely to feel competent (Seligman, 2011), which may enhance their self-esteem. Research indicates that awareness and appreciation of personal strengths can improve self-esteem, leading to positive outcomes such as increased resilience and academic success (Liu et al., 2021; Park et al., 2004; Wagner et al., 2020). The strengths-based

approach within positive psychology encourages recognizing and leveraging individual strengths, thereby supporting positive self-esteem development. Seligman's PERMA model (Seligman, 2011) highlights that acknowledging personal strengths contributes to elements like accomplishment and positive emotion within well-being. Seligman (2011) also suggests that when children recognize their own abilities, they develop higher self-efficacy or belief in their ability to succeed, further enhancing their self-esteem. Alternatively, children with higher self-esteem may have heightened perceptions of their strengths (Heppner & Kernis, 2011; Orth & Robins, 2022), indicating a reciprocal relationship between self-esteem and self-perception of strengths. Thus, fostering self-esteem in children may lead to a greater recognition of their strengths, further enhancing their self-worth and overall well-being.

Similarly, in line with the initial hypothesis, the current study found a significant positive correlation between child self-esteem and parent-reported strengths. The findings suggest that parents' positive perception of their children's strengths is related to higher self-esteem in their children. The finding aligns with previous research, emphasizing the beneficial effects of positive parenting practices. Specifically, studies have highlighted that positive parenting practices, such as warmth and acknowledging children's efforts and achievements, can foster a sense of self-worth (Kou, 2022) and competence in the child (Harris et al., 2017; Krauss et al., 2020). In addition, parental recognition and affirmation of a child's strengths foster a positive environment and enhance the child's self-worth and confidence (Waters, 2015).

The significant positive correlation between child self-esteem and parent-reported child strengths can be understood through several theoretical frameworks. Firstly, positive psychology suggests that when parents recognize and support their children's strengths, it fosters a positive environment of support and validation, reinforcing self-worth (Seligman, 2011). Moreover,

positive reinforcement, a key element of SLT, plays a vital role in the positive relationship between parents' positive recognition of their child's strengths and their child's self-esteem. Specifically, when parents acknowledge their children's strengths, it provides positive reinforcement where the child feels valued and competent (Bandura, 1977). Additionally, positive parenting practices, such as warmth, positive feedback, and active involvement in a child's life, further support the relationship between parents' positive perception of their children's strengths and self-esteem. For instance, Waters (2015) found that parents experience positive emotions when they recognize their children's strengths, and the recognition fosters a positive environment that enhances the child's self-worth and confidence. Similarly, Krauss et al. (2020) found that positive parenting practices support the development of self-esteem in children. Furthermore, strengths-based parenting, which focuses on recognizing and leveraging strengths, promotes children's well-being and confidence (Harris et al., 2017). Overall, these findings highlight the importance of positive reinforcement, social learning, and positive parenting practices in fostering a supportive environment that enhances children's self-esteem and well-being.

Taken together, the positive relationships between perceptions of children's strengths and self-esteem suggest that when parents and children have similar perceptions of their strengths, it may lead to higher self-esteem in the child; however, the causality cannot be confirmed.

Parent Self-Stigma

In the current study, parents reported experiencing varying levels of parent self-stigma. The pattern of parent self-stigma that parents reported aligns with the literature that investigated a population of parents of children with differing mental health conditions (Eaton et al., 2019; 2020) who reported similar patterns of self-stigma.

In addition, the current study found a significant negative correlation between parents' total self-stigma and children's self-esteem, suggesting that higher levels of self-stigma among parents are associated with lower self-esteem in their children, supporting the initial hypothesis. Interestingly, a specific type of parent's self-stigma, self-blame, showed a significant negative relationship with children's self-esteem, indicating that when parents blame themselves for their children's ADHD, it may negatively relate to their child's self-esteem. However, other types of parent's self-stigma (parenting self-shame and bad parenting self-beliefs) did not show significant relationships with children's self-esteem.

Together, these results support the hypotheses that there would be a negative relationship between parents' self-stigma and children's self-esteem and contribute to the existing literature on the adverse relationship between parents' self-stigma and children's outcomes (Drent et al., 2022; Li et al., 2019). Furthermore, although research has found that parents of children with ADHD often encounter stigmatizing situations and believe that self-stigma may affect their children's self-esteem (dosReis, 2010), this study is the first to date that investigated the direct relationship between parents' self-stigma and children's self-esteem in children with ADHD.

The negative correlation between parents' self-stigma and children's self-esteem may be attributed to the adverse effect of self-stigma on parenting. Parents who experience self-stigma may feel inadequate or guilty about their child's condition, which can affect their parenting style (Chan et al., 2022; Eaton et al., 2019; Mikami et al., 2015). Additionally, research has demonstrated a negative association between parenting styles and self-esteem levels in children (Kurman et al., 2018; Piquart & Gerke, 2019), such that authoritarian parenting is associated with low implicit self-esteem in children with ADHD (Kurman et al., 2018). Thus, the adverse effect of parent self-stigma on parenting style may lead to less positive interactions and lower

levels of support and warmth (Chan et al., 2023), which is crucial for supporting children's self-esteem (Krauss et al., 2020; Orth, 2018). Moreover, children often model their behaviour and self-perceptions based on their parents' behaviour and actions (Bandura, 1977). Research has demonstrated associations between parents' self-stigma and their own self-esteem (Charbonnier et al., 2019; Eaton et al., 2018; Özaslan & Yıldıırım, 2021), indicating that parents with higher self-stigma had low self-esteem. Thus, if parents exhibit signs of self-stigma and low self-esteem, children may internalize their parents' attitudes and develop similar feelings about themselves.

Furthermore, the findings add a layer of nuance to our understanding of the impact of parent self-stigma, suggesting that different types of self-stigma may affect children's self-esteem differently. A novel finding from the current study is the negative relationship between parents' self-blame and children's self-esteem. This finding is particularly noteworthy as existing research has primarily focused on the relationship between child self-stigma and self-esteem (Jelinkova et al., 2024), and the relationship between societal stigma and self-esteem (Catalano et al., 2021; Corrigan et al., 2016). The current study, however, focuses on the influence of parents' self-blame on children's self-esteem, providing new information into the complexity of parent's self-stigma and children's self-esteem. However, it is essential to note that the findings are correlational, and the causality of the relationship remains unclear. Previous research has suggested that self-esteem significantly predicts internalized stigma (Dubreucq et al., 2021; Zhou et al., 2018). Thus, the findings indicate that while the current study found a relationship between parent's self-blame and children's self-esteem, the causal direction of this relationship requires further investigation.

The negative relationship between parents' self-blame and children's self-esteem may be grounded in SLT (Bandura, 1977) and the concept of emotional contagion (Hatfield et al., 1993). Parents who self-blame may inadvertently transmit their negative emotions to their children (Moses, 2010b), creating an environment where children internalize their parents' feelings, which can negatively influence their self-esteem. Additionally, research has demonstrated that parent self-stigma, including self-blame, is negatively correlated with parents' self-esteem and empowerment, which may affect parents' interactions with their children (Eaton et al., 2019). Consequently, children may model their behaviour and self-perceptions based on their parents' behaviour and attitudes, resulting in lower self-esteem.

Parent Self-Stigma and Perception of Strengths. The study also found negative correlations between parents' self-stigma, children's reports of their own strengths, and parents' reports of children's strengths. Specifically, higher levels of parents' total self-stigma among parents were associated with lower levels of strengths reported by parents about their children, thus supporting the hypotheses. The findings align with previous research, indicating that parents' self-stigma can adversely influence their interactions with their children (Chan et al., 2023; Cheung et al., 2019; Mikami et al., 2015). For example, parents experiencing elevated levels of self-stigma may provide less positive reinforcement and more critical feedback, which can negatively affect their children's self-perception (Drent et al., 2022; Eaton et al., 2019, 2020).

The negative association between parents' self-stigma and perceptions of their children's strengths may be explained by the challenges that parents experience with self-stigma. Specifically, when parents experience increased self-stigma, it may be harder for them to recognize and appreciate their child's positive attributes. For example, Mikami et al. (2015)

found an adverse relationship between parents' affiliate stigma and their perceptions of their children's social skills in children with ADHD, suggesting that parents who experience more stigma may focus more on their children's challenges and experience more negative parenting practices towards their child. Furthermore, dosReis (2010) found that 77% of parents reported stigmatizing experiences that influenced their views on their child's abilities and their own parenting. Further, the study described that parents of children who were newly diagnosed with ADHD often experience stigma that makes them feel as though they cannot talk about their child's achievements, suggesting that stigma may act as a barrier, not only limiting their ability to communicate about their child's achievements but also potentially obscuring their perception of their child's strengths. Overall, these findings highlight the adverse relationship between parent self-stigma and parents' perceptions of their children's strengths, emphasizing the importance of addressing self-stigma to foster a more supportive and accurate understanding of their children's capabilities, which is essential for the child's overall development and well-being.

The adverse relationships between parents' self-stigma and children's perceptions of their strengths may be explained through SLT, as children model their parents' behaviours and attitudes. Specifically, Mikami et al. (2015) found that parents with high stigma were less supportive and more critical of their children with ADHD. The critical and less supportive behaviour from parents may create an environment where children internalize their parents' negativity. Specifically, when parents experience high self-stigma, they may unintentionally communicate more critically and less supportively, leading children to adopt negative attitudes towards themselves. Consequently, children may become more critical of themselves, doubting their abilities, and developing lower perceptions of their own strengths.

Furthermore, the current study found that specific types of parents' self-stigma, specifically self-blame, had a significant negative relationship with children's perceptions of their strengths compared to the other types of parents' self-stigma (self-shame and bad parent). The finding indicates that different types of self-stigma may uniquely affect children's self-esteem and perceptions of strengths. One reason that may explain the significance between children's perceptions of their strengths and parent self-blame may be attributed to guilt and responsibility related to parents' feelings of self-blame. In contrast, self-shame, and bad-parent self-beliefs, while harmful, do not involve the same level of personal fault and may not lead to the same intensity of negative self-blame towards children (Eaton et al., 2019). Additionally, self-blame is associated with higher levels of psychological distress, which can impair parents' ability to provide positive reinforcement and support, further contributing to children's negative self-perceptions (Eaton et al., 2020). Thus, the direct attribution of fault in self-blame makes it more influential on children's perceptions of their strengths compared to other forms of parent self-stigma.

Alternatively, significant negative correlations were found between each type of parent's self-stigma (self-blame, self-shame, and bad parent) and parents' perception of their child's strengths. Parents' lower perceptions of their children's strengths indicate that the more parents blame themselves, feel shame, or perceive themselves as bad parents due to their child's ADHD, the less they recognize and report their children's strengths. These findings support the hypothesis and suggest that parents' self-stigma affects their perceptions of themselves and their children, leading to less positive recognition of the child's abilities and accomplishments. These results align with previous literature, such as Cheung et al. (2019) and Mikami et al. (2015), which suggests that parent self-stigma may influence parents to focus more on their children's

difficulties rather than their strengths. Furthermore, the findings suggest that parent's self-stigma influences not only children's self-esteem but also the way that parents and children perceive strengths.

Research Question Two

The primary aim of research question two was to investigate the combined impact of child-reported strengths and parents-reported strengths on children's self-esteem while also considering the influence of parental self-stigma and covariates (child age, child gender, and parent education level). It was hypothesized that higher levels of parents' total self-stigma would be associated with lower levels of children's self-esteem. The results from Model 2 support the hypothesis, indicating that parents' self-stigma is a significant negative predictor of children's self-esteem, explaining an additional 18% of the variance in children's self-esteem, beyond the variance explained by the demographic variables. The results align with prior studies that demonstrate the adverse outcomes associated with parent self-stigma in the ADHD community (Bisset et al., 2022; Charbonnier et al., 2019; Eaton et al., 2020; Laugesen et al., 2016) and the adverse relationship between self-stigma and self-esteem (Özaslan & Yıldırım, 2021). Furthermore, the current study's findings are consistent with research highlighting parents' essential role in children's self-esteem development (Felson & Zielinski, 1989; Harris et al., 2017; Oh et al., 2012). However, to the best of our knowledge, this is the first study to explore the association between parents' self-stigma and self-esteem in children with ADHD, providing a new perspective for developing related interventions.

Plausible explanations for the significant negative relationship between parents' total self-stigma and children's self-esteem may be understood through SLT and parenting practices. Mikami et al. (2015) found that when parents experience elevated levels of self-stigma, they may

feel inadequate or ashamed, which can negatively affect their parenting style and their interactions with their children. Parents negative self-perception can lead to less supportive and more critical parenting practices, which in turn can lower children's self-esteem. For instance, Kurman et al. (2018) found that authoritarian parenting is associated with lower self-esteem in children with ADHD. Özaslan & Yildirim (2021) found that parents with higher self-stigma had lower self-esteem. According to SLT, if parents model behaviours and feelings such as low self-esteem resulting from their parent self-stigma, children may internalize those feelings, resulting in lower self-esteem. Furthermore, this concept is also related to the concept of affective contagion, where shared emotional states affect the development of self-regulation in children (Waters et al., 2020). Parents who experience self-stigma tend to have increased parenting stress (Chan et al., 2023), leading to less patience, calmness, and compassion toward their children (Cheung et al., 2019). Thus, when parents experience self-stigma, their negative emotions and stress may be transferred to their children, affecting their children's emotional well-being and self-esteem.

Next, it was hypothesized that child-reported and parent-reported child strengths would positively predict children's self-esteem, beyond parent self-stigma and demographic variables. The results from Model 3 partially support the hypothesis as adding both perceptions of the children's strengths improved the model's ability to predict children's self-esteem by an additional 23%. However, only perception of child strengths as reported by the child strongly predicted children's self-esteem when assessing the variables independently. In contrast, parent-reported child strengths did not significantly predict children's self-esteem within the model. These findings suggest that children's self-perceptions of their strengths contribute more significantly to their self-esteem than parents' perceptions.

The results of the significant positive relationship between children's perception of strengths and self-esteem may be attributed to the idea that self-recognition fosters a sense of competence and self-worth (Park et al., 2004; Toback et al., 2016; Wood et al., 2011), thereby positively influencing the child's self-esteem. In addition, when children with ADHD identify and articulate their strengths, it can foster a positive self-image and improve their overall well-being (Climie & Mastoras, 2015), which may further positively influence their self-esteem. Therefore, empowering children with ADHD to recognize and acknowledge their strengths may be crucial in promoting self-esteem.

In addition, parents' reports of their children's strengths did not significantly affect their self-esteem, which differed from prior correlation results of the current study, which demonstrated a positive relationship between parents' reports of children's strengths and self-esteem. The discrepancy could be due to a suppression or interaction effect with other variables in the current model. Specifically, a suppression effect could occur if another variable in the model overlaps with parents' report of the child's strengths in predicting self-esteem and controlling for the overlapping portion in the regression model reveals the unique and potentially opposite effect of parent-reported child strengths. Alternatively, an interaction effect could be present, where the effect of parents' reports of children's strengths on a child's self-esteem depends on the level of another variable. For example, given the relationships with another variable, it is possible that the effect of parents' reports of children's strengths might be positive at one level of another variable but negative at another level. Given the previous correlation results, parent self-stigma has a strong negative correlation with both parents reports of children's strengths and child's self-esteem. As such, parents' self-stigma may be suppressing the effect of parents' report of their children's strengths, or may be interacting with it, leading to

a negative effect in the regression model. Therefore, the complex dynamics between parent self-stigma and parent report of child strengths may influence the true relationship between parent report of child strengths and child's self-esteem, which emphasizes the need for further investigation into these dynamics.

Research Question Three

In the previous research question, child age, child gender and parent education level were added in the first step of the regression model to control for their effects with child's self-esteem and parent self-stigma. However, the regression assumed that the variables independently influence self-esteem without considering the potential interdependencies among the variables. Therefore, in research question three, a mediation model was used to account for the interdependencies while controlling for individual covariates directly. Specifically, research question three aimed to examine the mediating role of parents' total self-stigma on the relationship between parents' perceptions of their children's strengths and self-esteem while controlling for the individual relationships with the covariates in the model. The findings from the mediation analysis provided valuable insights into the relationships between parents' self-stigma, parents' perception of their children's strengths, and children's self-esteem.

Firstly, it was hypothesized that a parent's total self-stigma would have a negative direct effect on their children's self-esteem. The hypothesis was supported by the results, aligning with existing literature that consistently demonstrates the adverse effects of self-stigma on the self-esteem of both youths with ADHD (Jelinkova et al., 2024) and their parents (Eaton et al., 2018; Özaslan & Yıldırım, 2021). Additionally, the current study is the first to directly examine the relationships between parents' self-stigma and children's self-esteem within families of children with ADHD. However, the findings of the current study relate to the findings by dosReis et al.

(2010), in which it was reported that parents of children newly diagnosed with ADHD felt isolated because of stigma and were concerned that their child would have low self-esteem and poorer well-being, as a result of the stigma. While dosReis and colleagues (2010) highlighted parents' concerns and hypotheses about how the adverse effects of stigma that they parents experienced would affect their child's self-esteem, the current study examined the relationship directly, providing evidence of the adverse relationship between parent self-stigma and children's self-esteem with ADHD. By quantifying the negative relationship between parent self-stigma and children's self-esteem, the current research validates the qualitative concerns that were reported by dosReis and colleagues (2010).

One plausible explanation for the results of the negative direct effect of parents' total self-stigma on children's self-esteem may be attributed to the adverse relationship between parenting practices and parent self-stigma, and the subsequent influence these behaviours have on children. Specifically, parents who experience self-stigma often experience higher levels of stress (Chan et al., 2023), reduced patience and less calmness towards their children (Cheung et al., 2019), which directly influence their parenting behaviours. Specifically, heightened parenting stress can increase negative parenting behaviours and beliefs (Chan et al., 2023; Eaton et al., 2019; Li et al., 2019). For example, harmful parenting practices, such as criticism, overprotection, or neglect, Specifically, heightened esteem in children (Pinquart & Gerke, 2019). Therefore, it is plausible that parents who experience self-stigma may also experience parenting stress, which manifests as negative parenting behaviour that adversely affects their children's self-esteem.

Additionally, it was hypothesized that parents' perceptions of their children's strengths would negatively affect their total self-stigma. The results supported the hypothesis, as the analysis revealed that as parents' perceptions of their children's strengths increase, their total

self-stigma decreases. Similarly, Mikami et al. (2015) explored the effects of parents' affiliate stigma on parents' perceptions of their children's social skills. They found that higher levels of affiliate stigma were associated with poorer ratings of their children's social skills, proposing that parents who experience more stigma may have lower perceptions of their children's skills. The current study extends the findings by Mikami and colleagues (2015) by indicating that perceiving children's strengths might have an inverse relationship with parents' self-stigma, in which parents' positive perceptions may reduce parents' self-stigma. Additionally, Climie and Henley (2016) emphasize that recognizing a child's unique abilities and resilience helps parents to balance their perspective, leading to a more optimistic view of the child. Thus, an explanation for the negative relationship between parents' perception of children's strengths and parents' self-stigma may be that a balanced perspective by the parent may function as a protective factor and potentially influence parents' self-stigma, as they may start to see their child in a more positive light.

Furthermore, the analysis did not support the hypothesis that higher levels of parents' reports of children's strengths would be associated with significantly higher levels of children's self-esteem, as the relationship was not statistically significant. The results contrast with the significant positive correlation observed in the bivariate analysis of the current study between parents' perception of children's strengths and self-esteem. The discrepancy may be attributed to several factors. Precisely, the mediation analysis controls for covariates such as child age, gender, and parent education level, which were not accounted for in the correlation analysis. Furthermore, in the mediation, child age was found to have a negative effect on parents' report of their children's strengths, suggesting that as children get older, parents may perceive their strengths differently, potentially due to changing developmental stages or increased expectations

(Pinquart & Ebeling, 2019). In addition, child age significantly affected children's self-esteem, indicating that the older children in the sample had lower self-esteem. The decrease in self-esteem as children grow older may be attributed to hormonal changes and physical development during puberty, which may heighten their self-consciousness (Orth et al., 2018). In addition, adolescents' self-perceptions are often influenced by how they believe others view them (Helwig & Ruprecht, 2017), leading to increased sensitivity to social feedback and potential decline in self-esteem.

Furthermore, child gender had a significant negative effect on children's self-esteem and parents' total self-stigma, indicating that societal expectations and gender roles could affect how children perceive themselves and how parents perceive their parenting (e.g., Kim & Park, 2019; Lee et al., 2018). While some research has found gender differences in parents' self-stigma of children with ADHD (Charbonnier et al., 2019; Jelinkova et al., 2024), such that parents of boys with ADHD experienced more parent self-stigma, other studies have found no gender differences in parents' self-stigma (Cheung et al., 2019; Eaton et al., 2020). The discrepancy could be due to the differences in the study populations, as Eaton and colleagues (2019, 2020) included 70% of parents of children with ADHD and 30% of parents of children with other mental health conditions, while Jelinkova and colleagues (2024) and the current study included parents of children with ADHD only. In addition, the research on gender and self-esteem has yielded mixed results. For example, Helwig and Ruprecht (2017) found that females report lower self-esteem than males from ages 10 to 30 in Western cultures. The same study found that males and females display different self-esteem patterns across the lifespan and sociocultural regions, with females demonstrating more fluctuation during adolescence. The findings suggest that gender differences may significantly influence self-esteem. Alternatively, other studies have found small gender

differences in self-esteem (Wagner et al., 2013; Zuckerman et al., 2016), whereas other studies have found that gender differences were not significant (Orth et al., 2018). Therefore, the results demonstrate the complex interplay between gender, age, self-esteem, and parents' self-stigma and emphasize the need for further research in this area.

Furthermore, parent education level did not appear to have a significant effect on the parent's total self-stigma, suggesting that other factors, such as individual experiences or social influences play a more crucial role in shaping parents' self-stigma. A meta-analysis by Shi et al. (2019) aligns with the current findings, demonstrating non-significant relationships between parent education and stigma. However, the findings contrast with other literature, suggesting a negative relationship between parents' education level and internalized stigma (Özaslan & Yildirim, 2021), and with parents' self-stigma (Jelinkova et al., 2024; Eaton et al., 2019). Thus, while the current study suggests that parent education level may not significantly affect parents' self-stigma, the mixed findings in the literature highlight the need for further research to understand the complex factors influencing parents' self-stigma.

Indirect Effects

The mediation analysis considered the indirect effects of parents' self-stigma, which was statistically significant and positive, suggesting that parents' total self-stigma fully mediates the relationship between parents' perception of child strengths and children's self-esteem.

Alternatively, the total effect of parent's perception of their children's strengths on children's self-esteem was approaching significance, indicating that the direct effect of parents' perception of their children's strengths on children's self-esteem is weak. Together the results suggest that parents' positive perceptions of their children's strengths could have a positive indirect effect on children's self-esteem through the reduction of parents' total self-stigma. Specifically, as parents

perceive their children's strengths more positively, their own self-stigma may decrease, which, in turn, could positively support their children's self-esteem. The results support the hypothesis that parents' positive perceptions of their children's strengths may mitigate the levels of parent self-stigma, positively influencing child self-esteem.

The significant indirect effect of parent's perception of their child's strengths on self-esteem, through the mediation of parents' self-stigma, may be understood through a strengths-based perspective, which has significant implications for enhancing the well-being of both parents and children. When parents focus on their children's strengths, they are likely to experience a shift in their perceptions (Climie & Henley, 2016; von Kraemer et al., 2023), which may reduce feelings of self-stigma and lead to improved emotional well-being and better parenting practices. Further, supporting a child's strengths can evoke positive emotions in parents (Waters, 2015), reducing self-stigma and contributing to a more positive parenting approach. Thus, the positive perceptions of children's strengths may reduce the stigma that parents feel concerning their child's ADHD. However, higher levels of parent self-stigma may negatively influence their positive perception of their children's skills (Mikami et al., 2015). Alternatively, research has highlighted that recognizing and nurturing children's strengths fosters a positive reciprocal relationship between parent and child well-being, especially in challenging situations (von Kraemer et al., 2023), such as those that may occur when parents experience self-stigma. Additionally, during childhood and adolescence, self-esteem improves when individuals feel valued by others (Chen, 2019; Gruenenfelder-Steiger et al., 2016). Moreover, parents' recognition and affirmation of a child's strengths foster a positive environment and enhance the child's self-worth and confidence (Harris et al., 2017; Kou, 2022; Orth, 2018). Therefore, parents' positive perceptions may positively influence children, even in challenging situations

like parental self-stigma. Thus, it may be explained that when parents perceive their children positively, it reduces the parent's self-stigma, which is associated with better emotional well-being and parenting practices, positively affecting their children's self-esteem.

The findings provide a contrast to the negative feelings reported by parents in the dosReis et al. (2010) study, who reported that parents often felt labelled as “the one with the child who has a problem” and reported that they could not talk about their child's achievements like other parents could. In contrast, the current study found that parents' positive perception of their children's strengths was related to reduced parent self-stigma, suggesting that talking about or focusing on children's strengths may help reduce the stigma that parents feel. This difference is significant because it highlights a shift in understanding and recognizing the positives of ADHD. Recent research suggests that focusing on the positives of ADHD is essential for decreasing stigma and increasing well-being (Stolte et al., 2022). Thus, adopting a strengths-based perspective and encouraging parents to discuss their children's strengths openly, despite stigma, can foster a more positive and supportive environment. Therefore, it is essential to promote conversations about children's strengths to help mitigate the negative effects of stigma.

Limitations

The current study provided valuable insights into the interplay of parent's self-stigma, perception of children's strengths, and children's self-esteem with ADHD. However, as with any study, there are several limitations.

Sample Limitations

Firstly, the sample size was small ($n= 63$), which may limit the generalizability of the findings. Smaller sample sizes can constrain the statistical power of the analysis, reducing the probability of detecting significant results (Cohen, 1992). Additionally, the sample demographics

may limit the findings' generalizability. Specifically, most of the children in the study were male (66.7%), and most of the parents were female (90.5%), which may limit the applicability of the findings to other populations, as the findings may not accurately represent the experiences of families with different gender compositions. Furthermore, research has demonstrated that mothers and fathers may rate children's behaviour differently (Veen-Mulders et al., 2017), suggesting that the predominance of female parents in the sample could influence the study's outcomes.

Moreover, the children in the study range from age 8 to 17 years, which is a broad range that spans several developmental stages, which could potentially confound the results. For example, parents may perceive the strengths of an 8-year-old differently from those of a 17-year-old. Furthermore, most of the sample identifies as White/Caucasian (71.4% of children and 82.5% of parents) and is skewed towards higher levels of parent education, with 68.3% of parents having an undergraduate degree or higher. Future studies with more extensive and diverse samples are needed to confirm these findings and explore potential differences across various demographic groups.

Measure Limitations

One limitation of the current study is the absence of a power analysis, which is essential for determining the appropriate sample size needed to detect a significant effect. Without a power analysis, there is a risk that the study may be underpowered, potentially leading to Type II errors where true effects are not detected. Additionally, the current study did not employ Bonferroni corrections for the multiple comparisons. Bonferroni corrections are crucial for controlling the family-wise error rate when conducting multiple statistical tests. The lack of these corrections increases the risk of Type I errors, where findings may be falsely identified as

significant. It is acknowledged that a power analysis should have been carried out for this project to ensure adequate sample sizes, thereby enhancing the robustness and reliability of the findings.

Additionally, the study relied on self-reported measures for both parents and children. Children reported their self-esteem and perceptions of strengths, while parents reported measures of parent self-stigma. While self-report measures are widely used and can provide valuable data, they are also subject to social desirability biases (Tracy, 2016). Moreover, children with ADHD may experience a Positive Illusory Bias (PIB), where they provide overly positive self-assessment compared to external evaluations (Hoza et al., 2002), which may explain the slight discrepancies between child-reported and parent-reported perceptions in the current study. Recognizing the presence of PIB is important for interpreting the results, as it suggests that children's self-reports may reflect an inflated view of their abilities. Future research should consider methods to account for PIB, such as incorporating objective measures of strengths or using multiple informants to provide a more balanced assessment. While the current study did utilize the multiple informant responses from parents and children about the child's strengths to increase validity, future research could benefit from incorporating other types of data, such as observational data or reports from teachers or other caregivers, to provide a more comprehensive understanding of the constructs. Addressing PIB in future research may help ensure a more accurate assessment of children's self-esteem and strengths.

Furthermore, this study did not include several factors that could influence children's self-esteem. For instance, peer relationships are crucial to a child's self-perceptions and social acceptance (Harris & Orth, 2020). Thus, considering peer relationships could provide a more comprehensive understanding of a child's self-esteem and how peers may influence children's perceptions of their strengths. In addition, the children in the study were categorized into one

group as having ADHD without considering their subtypes. ADHD is a complex disorder with three presentations (ADHD-I, ADHD-HI, ADHD-C), each with distinct characteristics. The lack of presentation differentiation could have led to a less comprehensive understanding of the data and findings. For example, Movali and colleagues (2020) found that self-esteem varied across children with different ADHD subtypes, such that children with ADHD-HI reported the highest cognitive strengths and the highest level of self-esteem when compared to the ADHD-I and ADHD-C subtypes. Thus, these findings suggest that each subtype of ADHD presents unique challenges and strengths, and an understanding of these differences allows for more tailored and effective interventions. Therefore, future research should consider the individual subtypes of ADHD to provide a more accurate and comprehensive understanding of the child.

Despite the limitations, the current study contributes to the literature by highlighting the significant role of parental self-stigma and children's self-perceptions in shaping children's self-esteem. The findings have important implications for interventions to enhance children's self-esteem and well-being.

Implications

The current study contributes to the understanding of how leveraging strengths in the presence of parents' self-stigma can support the psychological well-being of children with ADHD, providing valuable insights for parents, educators, and clinicians working with this population. There are several implications for this work.

Nurturing Children's Strengths

The findings of the current project emphasize the importance of helping children with ADHD develop positive self-perceptions. Further, the results highlight the significant role of both child and parent perceptions in association with positive self-esteem in children, suggesting

that interventions could benefit from reducing stigma and enhancing and leveraging strengths. In addition, schools and other organizations working with children could also consider implementing programs or activities designed to help children recognize and appreciate their strengths. Thus, initiatives that promote positive perceptions can foster a supportive environment that nurtures children's self-esteem and strengths.

Implications for Children with ADHD. The findings from the current study emphasize the importance of helping children with ADHD develop positive self-perceptions and focus on their strengths. Notably, the results indicate that increased child strengths are positive predictors of self-esteem. Thus, children can experience improved self-esteem and overall well-being by recognizing their strengths. In addition, children with ADHD often experience challenges with ADHD that can negatively affect their self-esteem. Thus, focusing on their strengths, children can develop a more positive self-image and feel more confident in their abilities. However, it is important to consider PIB where children with ADHD may overestimate their abilities and strengths (Hoza et al., 2004). PIB can affect the accuracy of self-reported measures and lead to discrepancies between child-reported and parent-reported perceptions. Recognizing PIB is essential for developing effective interventions. Future programs should incorporate objective measures and multiple informants to provide a balanced assessment of children's strengths and self-esteem (Evangelista et al., 2008; Owens et al., 2007). By addressing PIB, interventions can better support children in developing a realistic and positive self-view, leading to improved academic and social outcomes, fostering resilience, and confidence.

Implications for Clinicians. The findings from the current study indicate that increased child strengths are positive predictors of children's self-esteem. Clinicians can use the findings to inform their practice by incorporating strengths-based assessments and interventions. By

focusing on the positive aspects of children's abilities, clinicians can help reduce self-stigma and improve the well-being of parents and children. The results indicate that increased child strengths are positive predictors of children's self-esteem, highlighting the importance of clinicians fostering and recognizing strengths in practice. Clinicians can also advocate for strengths-based perspectives in their work with schools and communities to promote a more comprehensive approach to supporting children with ADHD and their families.

The relationship between strength and self-esteem suggests that recognizing and applying one's strengths can foster a positive self-view and have important implications for improving interventions. A meta-analysis by Proyer and colleagues (2013) supports this relationship, demonstrating that strengths-focused interventions, which focus on identifying and utilizing individual strengths, can improve self-esteem. Similarly, longitudinal studies and research highlight the role of strengths in developing self-esteem over time (Harris & Orth, 2020; Orth et al., 2018) and improving parent-child relationships (Harris et al., 2017; von Kraemer et al., 2023; Waters, 2011, 2015). Furthermore, the findings call for the integration of strengths into existing interventions for parents and children with ADHD. Specifically, Niemiec (2019) suggests that implementing character strengths into pharmacological, behavioural, and parent-training programs can enhance treatment adherence, build relationships, and empower families. Thus, interventions focused on recognizing strengths may benefit both parents and children, creating a reciprocal relationship that benefits both the child and their parents.

Implications for Parent Interventions. Findings highlight the potential impact of parents' positive perceptions of their child's strengths on the child's self-esteem, suggesting valuable information for developing intervention strategies. Interventions could focus on enhancing parents' ability to recognize and promote their child's strengths, reducing their self-

stigma and enhancing their child's self-esteem. Positive parenting practices, such as warmth, positive feedback and acknowledgment of children's efforts and achievements, have been demonstrated to help foster a sense of self-worth, confidence (Kou, 2022), and competence in the child (Harris et al., 2017; Krauss et al., 2020). Additionally, longitudinal studies demonstrate that parental warmth and monitoring positively predict children's self-esteem (Felson & Zielinski, 1989; Harris et al., 2017). Thus, interventions focusing on positive parenting practices and enhancing parents' ability to promote and recognize their child's strengths may support parents in challenging stigma and promoting positive outcomes for their child.

Reducing Parent Self-Stigma

Although no known interventions have specifically investigated the efficacy of reducing self-stigma in parents of children with ADHD, empirical evidence suggests that increased knowledge (Tully et al., 2019) of ADHD (Nguyen & Hinshaw, 2020) and self-compassion (Lodder et al., 2020) may be protective factors that may be utilized in intervention. In addition, the findings from the current study suggest that interventions aimed at enhancing children's self-esteem should consider the importance of addressing parent self-stigma and fostering perceived strengths in interventions for children with ADHD.

Self-stigma experienced by parents is often worsened by a range of factors, including societal attitudes (dosReis et al., 2010), lack of knowledge about ADHD, and negative experiences with healthcare providers (Schoeman & Voges, 2022). Further, lower parental knowledge of ADHD and higher levels of parent self-stigma were associated with lower help-seeking behaviours (Taylor & Antshel, 2021). These findings suggest that parents who feel shame or guilty about their child's ADHD may be less likely to seek and provide adequate support and intervention for their child. However, research has suggested that promoting

psychoeducation to increase public knowledge of ADHD may mitigate the stigma that parents experience (Nguyen & Hinshaw, 2020). One avenue that aims to provide psychoeducation to parents about ADHD is parent training programs. Specifically, parent training programs often provide psychoeducation on ADHD, how it presents and influences a child's functioning, and teaches parents how to respond effectively to interruptions, task incompleteness, emotional dysregulation, disorganization, distractibility, and following the rules (Evans et al., 2018). Topics may include knowledge of ADHD, positive reinforcement skills, reward systems, cooperation with teachers, and planning to anticipate problems (Barkley, 2013). Thus, parents' training programs may be a valuable intervention for increasing parental knowledge about ADHD and resulting in a reduction of self-stigma.

Interventions aimed at reducing self-blame in parents of children with autism spectrum disorder have found promising results, with reductions in self-blame and increases in self-esteem, self-compassion, and positive meaning of caregiving (Lodder et al., 2020). The findings suggest that similar interventions could be beneficial for parents of children with ADHD. By addressing self-blame and promoting positive perceptions of their children's strengths, parents can experience reduced stigma and improved emotional well-being. The results also indicate that increased child strengths positively predict children's self-esteem, highlighting the importance of parents fostering and recognizing children's strengths. Encouraging parents to focus on and discuss their children's strengths despite self-stigma can foster a positive and accepting atmosphere. A positive shift in perspective is crucial for reducing the negative effect of stigma and promoting the well-being of both parents and children. By emphasizing the positive aspects of caregiving and children's strengths, interventions can help parents reframe their experiences

and focus on the benefits, leading to better parenting practices and a more supportive environment.

Implications for Clinicians. The findings on the adverse effects of parent's self-stigma on parent and child outcomes have significant implications for clinicians working with families and in early diagnosis of ADHD. Understanding the negative effect of parent self-stigma on children's self-esteem is crucial for developing effective interventions. Clinicians should be aware that parents who experience self-stigma may inadvertently influence their child's self-esteem and overall well-being. Thus, clinicians should incorporate strategies to reduce parent self-stigma as a therapeutic approach. Specifically, clinicians can provide education about ADHD to debunk myths and reduce feelings of guilt or inadequacy, offer support groups for parents to share experiences and reduce feelings of isolation, and teach coping mechanisms to manage stress and negative emotions (Wolraich et al., 2019). For example, research has demonstrated that increasing knowledge about a disorder can decrease stigma (Kosyluk, 2016; Tully et al., 2019). Thus, by providing parents with accurate information about ADHD and addressing parent self-stigma early in the diagnosis stage, clinicians can create a more supportive environment that fosters positive parent-child interactions and promotes positive child outcomes.

Furthermore, early intervention is critical for supporting parents with self-stigma. Clinicians should work closely with families at the time of diagnosis to identify and address any signs of self-stigma in parents. By intervening early, clinicians can help mitigate the potential adverse effects on the child's outcome and support the child's emotional and psychological development. Additionally, improving mental health literacy regarding ADHD is essential. Increased knowledge about ADHD can lead to better recognition of symptoms, more accurate and timely diagnoses, and more effective interventions (Tully et al., 2019). Thus, efforts to

enhance ADHD literacy should be prioritized, including community education programs, accessible resources, and training for those involved in caring for and educating children with ADHD. By supporting parents and increasing the mental health literacy of ADHD, clinicians can significantly improve the overall well-being of both parents and children, leading to more positive long-term outcomes.

Implications for Educators

Educators play a crucial role in shaping the experiences of children with ADHD (Gwernan-Jones et al., 2016). However, educators need to advocate for policies that recognize and promote children's strengths to create a more supportive and inclusive environment. The study's findings offer valuable insights that can inform policy decisions and improve educational outcomes for children with ADHD.

Firstly, educators could advocate for developing and implementing strengths-based education policies, encouraging schools to recognize and promote each child's unique strengths (Niemic & Pearce, 2021). Research has demonstrated that focusing on strengths can significantly enhance children's self-esteem. By adopting a strengths-based approach, educators can help create a more inclusive, supportive environment where children with ADHD feel valued and understood. Additionally, educators can encourage policies that foster parental involvement in their child's education. It is crucial to provide resources and support for parents to understand and advocate for their children's needs (Anthony & Ogg, 2019). By implementing strengths-based education and fostering parental involvement, schools can create a more supportive environment for children with ADHD.

Research has highlighted the importance of incorporating strengths-based approaches into the school environment (Climie & Henley, 2016; Climie & Mastoras, 2015; McDougal et

al., 2022). Furthermore, addressing the stigma associated with ADHD in schools is another crucial area where educators could intervene. Specifically, educators could implement policies and provide training for teachers and school staff on ADHD and promote awareness and understanding among students to improve knowledge of ADHD. Furthermore, teacher training programs may effectively improve teachers' knowledge about ADHD (Tully et al., 2019; Ward et al., 2020) and thus support teachers in understanding the stigma parents may experience and how to access and support children's strengths and self-esteem. Therefore, implementing teacher training and providing resources for parents could help reduce stigma and create a more inclusive environment for both the parent and child.

By incorporating strengths-based education, parental involvement, and teacher training into educational policies, a more supportive and inclusive educational environment for children with ADHD and their parents could be created. Comprehensive policies would not only address the unique needs of children with ADHD but also foster a sense of belonging and acceptance within the school community. Policies would contribute to the overall well-being and success of children with ADHD, ensuring they could thrive both academically and personally.

Future Directions

The current study highlights the importance of considering multiple factors, including parents' self-stigma and perceptions of children's strengths, in understanding children's self-esteem with ADHD. While the study has limitations, it provides valuable insights that can inform future research directions and practical strategies to support children with ADHD and their families.

Future Research Directions

Future research should emphasize the importance of considering both children's self-perceptions and parental factors when investigating children's self-esteem with ADHD. In addition, it is crucial to explore parent and child dynamics and consider additional mediators and moderators that were not considered in the current study that may influence the relationships. Specifically, future studies could explore other potential moderating variables, such as socioeconomic status, cultural background, and comorbid conditions. Additionally, incorporating other covariates, including parents' mental health, family dynamics, and external support systems, can provide a more comprehensive analysis and help identify other factors that may influence the relationships—furthermore, investigating other relevant factors that could influence children's self-esteem, such as peer relationship or academic performance (Bagwell & Bukowski, 2018; Zhao et al., 2021). By addressing additional mediators and moderators, future studies can provide a more comprehensive understanding of the factors influencing children's self-esteem and help develop effective interventions.

In addition, it is important to understand parents' knowledge of ADHD and its relation to the self-stigma that they experience. Research suggests that increased knowledge about ADHD is related to a more favorable opinion about ADHD interventions and reduces stigma (Kosyluk, 2016). Thus, future studies could benefit from investigating how parents' knowledge of ADHD affects their self-stigma and, in turn, their child's self-esteem. Understanding parents' knowledge of ADHD concerning parent self-stigma may help develop targeted educational programs for parents to improve their knowledge and reduce stigma, benefiting children's self-esteem.

Lastly, future research should address the current study's limitations by employing more extensive and diverse samples. For example, research could include participants from various

geographic locations, socioeconomic backgrounds, and cultural contexts to provide a more comprehensive understanding of the relationships between parent's self-stigma, perception of children's strengths and self-esteem. Moreover, longitudinal studies could be valuable in examining how parents' self-stigma and child and parent strengths influence children's self-esteem. By utilizing a longitudinal design, research can gain insights into the long-term effects of these factors on children's self-esteem and help determine the causality of relationships.

Conclusion

Overall, the current study explored the intricate relationships between parents' self-stigma, children's self-esteem, and the perceived strengths of children with ADHD. The findings emphasize the significant role of parent self-stigma and its adverse relationship with children's self-esteem. Additionally, the results highlight the importance of children's perceptions of strengths in predicting their self-esteem. The findings further highlight the potential protective role of parents' positive perceptions of their children's strengths against parents' self-stigma, offering a new avenue for future research. Thus, the findings from the current study have significant implications for educators and clinicians, advocating for a strength-based approach and parental involvement in interventions to foster positive self-esteem in children with ADHD. Further research is needed to investigate other potential factors influencing the self-esteem and self-stigma of parents of children with ADHD and to explore the long-term effects of interventions focused on enhancing and promoting children's strengths. In conclusion, the findings from the current study could inform the development of effective support systems that enhance the well-being of both children with ADHD and their parents by reducing stigma and promoting positive perceptions of children's abilities and strengths.

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Appendix A

Pre-screening Questionnaire

Thank you for your interest in the Strengths and Stigma study. We are looking for children between the ages of 8 to 17 years old. In order to determine whether your child is able to participate in this study, we have some questions for you to complete which will take approximately 5 minutes of your time.

This information is being collected for screening purposes ONLY, will NOT be retained for use, and will remain confidential.

Would you like to proceed?

- Yes, I understand
- No

Please provide your first and last name.

Please provide your child's first and last name.

How old is your child?

- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17

Please provide your email address.

What are the living arrangements for this child? (e.g., lives with both parents, one parent)

If the child does not live with both parents, what is custody arrangement? If the custody arrangement is joint custody, please provide the first and last name, as well as the email of the second parent.

Does your child have an ADHD diagnosis?

- Yes

- No

Does your child have a sibling with an ADHD diagnosis?

- Yes
- No

Does your child have any neurological or neurodevelopmental conditions, NOT including ADHD, LD, ODD/CD, Anxiety or Depression? (For example: including autism, psychosis, epilepsy, etc.)

- Yes; if yes please specify: _____
- No

Does your child have any significant sensory or motor impairments?

- Yes; if yes please describe: _____
- No

Does your child speak and understand English?

- Yes
- No

Have you lived with your child for at least 5 years?

- Yes
- No

Are you and your child Canadian AND/OR do you live in Canada?

- Yes
- No

Appendix B

Parent Demographic Survey

Please complete the following primary caregiver(s) questions (each caregiver will have a separate section).

Please fill out the following questions for primary caregiver #1. This should be the person completing the survey.

What ethnicity do you identify with?

- Black/African Canadian
- White/Caucasian/European
- First Nation or Métis
- Latino/Hispanic
- Asian
- Middle Eastern/Arabic
- East Asian
- Native Hawaiian or Pacific Islander
- South Asian/ Indian
- Other, Specify:

What language(s) do you speak at home?

- English
- French
- Other

What gender do you identify as?

- Male
- Female
- Non-binary / third gender
- Other

What is your highest level of education achieved to date?

- Less Than High School
- Some High School
- High School Diploma
- Some College/University
- College Diploma
- Undergraduate Degree
- Graduate Degree
- Doctorate
- Other, Specify:

What is your current occupation?

What is your current household income?

- Under \$25,000
- \$26,000 - \$50,000
- \$51,000 - \$75,000
- \$76,000 - \$100,000
- Over \$100,000
- Prefer not to answer

What is your relationship to the child?

- Biological Mother
- Biological Father
- Stepmother
- Stepfather
- Foster Mother
- Foster Father
- Adopted Mother
- Adopted Father
- Aunt
- Uncle
- Grandmother
- Grandfather
- Other, Specify:

Please fill out the following questions for primary caregiver #2 (if applicable). If there is only one caregiver, please skip to the next page.

What ethnicity do you identify with?

- Black/African Canadian
- White/Caucasian/European
- First Nation or Métis
- Latino/Hispanic
- Asian
- Middle Eastern/Arabic
- East Asian
- Native Hawaiian or Pacific Islander
- South Asian/ Indian
- Other, Specify:

What language(s) do you speak at home?

- English
- French
- Other

What gender do you identify as?

- Male
- Female
- Non-binary / third gender
- Other

What is your highest level of education achieved to date?

- Less Than High School
- Some High School
- High School Diploma
- Some College/University
- College Diploma
- Undergraduate Degree
- Graduate Degree
- Doctorate
- Other, Specify:

What is your current occupation?

What is your current household income?

- Under \$25,000
- \$26,000 - \$50,000
- \$51,000 - \$75,000
- \$76,000 - \$100,000
- Over \$100,000
- Prefer not to answer

What is your relationship to the child?

- Biological Mother
- Biological Father
- Stepmother
- Stepfather
- Foster Mother
- Foster Father
- Adopted Mother
- Adopted Father
- Aunt
- Uncle
- Grandmother
- Grandfather
- Other, Specify:

Appendix C

Child Demographic Survey

Do you have ADHD?

- Yes, I have ADHD
- No, I don't have ADHD

How old are you?

- 7 years old
- 8 years old
- 9 years old
- 10 years old
- 11 years old
- 12 years old
- 13 years old
- 14 years old
- 15 years old
- 16 years old
- 17 years old

How do you identify your ethnicity?

- Black/African Canadian
- White/Caucasian/European
- First Nation or Métis
- Latino/Hispanic
- Asian
- Middle Eastern/Arabic
- East Asian
- South Asian/Indian
- Other, Specify:

What gender do you identify with?

- Female
- Male
- Non-binary/third party
- Other

How many siblings do you have?

- 0
- 1
- 2
- 3+

What format of school did you attend last year (2020-2021)?

- Online/Virtual
- Homeschooling
- At School/Face-to-face
- Both online and at school
- Other

Do you like going to school?

- Yes
- Mostly
- Sometimes
- No
- Other

Please rate your current academic performance from:

Significantly
Below Grade
Level

Somewhat
Below Grade
Level

At
Grade
Level

Somewhat
Above Grade
Level

Significantly
Above Grade
Level

Math

Reading

Writing

Social

Studies

Science

Art

Physical

Education
(Gym)

Overall

Appendix D

Assent Script

* Please note that this script will be read to individual children via zoom at the beginning of the call and they will be provided with the opportunity to ask questions of the researcher at this time

You have been invited to participate in a research project because you know first hand what it feels like to have ADHD. You will become a “Junior Scientist” and help us with our research project. We want to figure out how your family’s knowledge and feelings towards ADHD, specifically your parents’ feelings and your own feelings, affects you. If you are willing to help us with our project, you will be helping children like you who have ADHD.

If you choose to participate in this research project, you will be asked to complete a number of tasks. We will be doing these tasks only once to get an understanding of how you feel on a day to day basis. There will be lots of different things that we will be doing together. We will measure different ways of thinking, answering questions about how you think or feel, and try some problem-solving activities, like solving puzzles.

It is important for you to know that if you decide to participate, all of your information will be kept confidential. This means that your information is top secret and will not be shared with your parents, your teachers, your friends, or anyone else who is not part of our project. We will answer any questions that you have as you go along and if you decide that you don’t want to participate any more, you can stop at any time.

Do you have any questions for us right now? Would you like to become a junior scientist and be part of our study?