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**CERTIFICATION OF INSTITUTIONAL ETHICS REVIEW**

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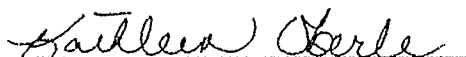
This is to certify that the Conjoint Faculties Research Ethics Board at the University of Calgary has examined the following research proposal and found the proposed research involving human subjects to be in accordance with University of Calgary Guidelines and the Tri-Council Policy Statement on *"Ethical Conduct in Research Using Human Subjects"*. This form and accompanying letter constitute the Certification of Institutional Ethics Review.

File no: **6393**  
Applicant(s): **Vicki L. Schwean**  
**Donald H. Saklofske**  
**Emma A. Climie**  
**Sarah Mastoras**  
**Colleen Stinson**  
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**Meghan Taylor**  
**Ashley Vesely**  
**Caroline Buzanko**  
Department: **Applied Psychology, Division of**  
Project Title: **Socio-Emotional Resilience in Children with ADHD**  
Sponsor (if applicable): **ACFCR**

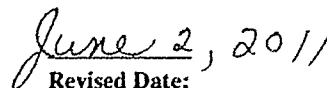
**Restrictions:**

**This Certification is subject to the following conditions:**

1. Approval is granted only for the project and purposes described in the application.
2. Any modifications to the authorized protocol must be submitted to the Chair, Conjoint Faculties Research Ethics Board for approval.
3. A progress report must be submitted 12 months from the date of this Certification, and should provide the expected completion date for the project.
4. Written notification must be sent to the Board when the project is complete or terminated.



**Kathleen Oberle, PhD**  
**Chair**  
**Conjoint Faculties Research Ethics Board**



**Revised Date:**  
**March 16<sup>th</sup> 2010**  
**Original Signed Date:**

**Distribution:** (1) Applicant. (2) Supervisor (if applicable). (3) Chair, Department/Faculty Research Ethics Committee. (4) Sponsor. (5) Conjoint Faculties Research Ethics Board (6) Research Services.



**Conjoint Faculties Research Ethics Board (CFREB)**

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**To:** Dr. Vicki Schwean  
Division of Applied Psychology  
Faculty of Education

**Date:** May 30, 2011

**From:** Dr. Kathleen Oberle, Chair  
Conjoint Faculties Research Ethics Board

**Re:** Approval of Modification for: Socio-Emotional Resilience in Children with ADHD  
Original Approval Date: March 16<sup>th</sup> 2010  
File No: 6393

The Certificate of Institutional Ethics Review issued on March 16<sup>th</sup> 2010 continues in force and extends to the modifications as set out in your email/memo dated May 30<sup>th</sup> 2011. Your request to (i) add completion of the Parenting Styles and Dimensions Questionnaire as a further demand of the specific participation of parents, and (ii) add Meghan Taylor, Ashley Vesely and Caroline Buzanko as co-applicants, having submitted consent instruments properly revised to reflect these changes, is approved as described.

You should attach a copy of the documentation you provided in order to request the modification, together with a copy of this memorandum, to the original Certification in your files.

Sincerely,

Kathleen Oberle, PhD  
Chair, Conjoint Faculties Research Ethics Board

Cc: Caroline Buzanko, Ashley Vesely and Meghan Taylor (Co-applicants)

UNIVERSITY OF CALGARY

Attachment and Resilience in Children with Attention-Deficit/Hyperactivity Disorder

by

Colleen Elizabeth Stinson

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES  
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
DEGREE OF MASTER OF SCIENCE

DEPARTMENT OF APPLIED PSYCHOLOGY

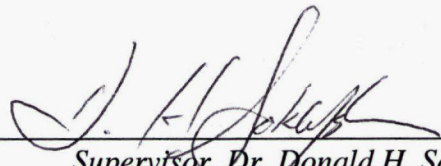
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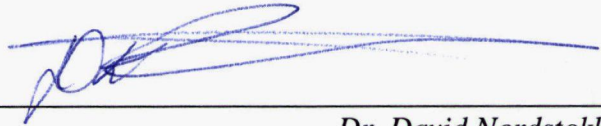
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UNIVERSITY OF CALGARY  
FACULTY OF GRADUATE STUDIES

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled "Attachment and Resilience in Children with Attention-Deficit/Hyperactivity Disorder" submitted by Colleen Stinson in partial fulfilment of the requirements of the degree of Master of Science.



Supervisor, *Dr. Donald H. Saklofske*  
Faculty of Education



*Dr. David Nordstokke*  
Faculty of Education



*Dr. Helen Mahoney*  
Faculty of Education

August 15, 2011

Date

## **Abstract**

This study investigated the constructs of attachment and resilience in children aged 8-11 previously diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD).

Information about the constructs themselves, as well as about the relationship between them, was gathered through self-reports completed by the child and his or her parents. It was determined that parent-rated attachment security and child-rated resilience were both typically developed when compared with a standardized sample, which is not consistent with previous conceptualizations of children with ADHD. Ratings of attachment security were inconsistent between parents; however, mother and child ratings of the attachment relationship were associated. A relationship between attachment and some aspects of resilience was established from the perspective of both the child and parents. These findings suggest that further research should be focus on attachment as a possible strength for children with ADHD, and its relationship with resilience should be investigated with a larger sample size.

## **Acknowledgements**

Firstly, I would like to thank my supervisor, Dr. Don Saklofske, for giving so much of his time to help me through this process. I would also like to thank my committee members, Dr. David Nordstokke and Dr. Helen Mahoney, for taking the time to read this document and share their expertise with me. Thank you to my colleagues and wonderful friends, Ashley and Alex, for making everything so much more fun and keeping me sane throughout this. A final thank you goes to my family, friends, and boyfriend, Ted, for the incredible support and encouragement you have given me.

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## **List of Abbreviations**

|         |   |
|---------|---|
| ADHD    | Attention-Deficit/Hyperactivity Disorder                                |
| ADHD-I  | Attention-Deficit/Hyperactivity Disorder-<br>Inattentive Type           |
| ADHD-HI | Attention-Deficit/Hyperactivity Disorder-<br>Hyperactive/Impulsive Type |
| ADHD-C  | Attention-Deficit/Hyperactivity Disorder-<br>Combined Type              |
| IRM     | Internal Representational Model   |
| LD      | Learning Disorder   |
| U-CAPES | University of Calgary Applied Psychological<br>and Educational Services |
| CBE     | Calgary Board of Education  |
| ODD     | Oppositional Defiant Disorder   |
| RSCA    | Resilience Scales for Children and<br>Adolescents                       |
| PRQ-AS  | Parent Relationships Questionnaire-<br>Attachment Scale                 |
| ASC     | Attachment Scale for Children   |
| WASI    | Wechsler Abbreviated Scale of Intelligence                              |
| FSIQ    | Full Scale Intelligence Quotient  |

## CHAPTER 1: INTRODUCTION

### **Attention-Deficit/Hyperactivity Disorder**

Attention-Deficit/Hyperactivity Disorder (ADHD) is a distressing condition that is typically identified in early to middle childhood. It is a pattern of behaviour that may include three separate aspects: inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2000). ADHD is currently one of the most commonly diagnosed disorders in children (Center for Disease Control, 2005) and approximately 5-10% of school-age Canadian children have been diagnosed with this disorder (Scahill & Schwab-Stone, 2000). ADHD is associated with significant impairment in at least two areas of functioning. For children, this usually encompasses the home and school settings, and therefore the disorder can have an extremely large impact on a child's well being (American Psychiatric Association, 2000; Deault, 2010). Additionally, ADHD can be debilitating due to its early onset where symptoms must be present in children before the age of seven in order to diagnose the disorder. Most children are identified during their first year of school (American Psychiatric Association, 2000; Goldstein & Rider, 2006).

There is general agreement that there are three subtypes of ADHD and each causes significant impairment in distinct ways. ADHD-Inattentive Type (ADHD-I) is characterized by behaviours related to inattention. It is diagnosed in children who demonstrate an inability to persist at tasks, do not attend to detail, often make careless mistakes, and must frequently jump from one task to another (American Psychiatric Association, 2000). ADHD-Hyperactive/Impulsive Type (ADHD-HI) is characterized by behaviours related to both hyperactivity and impulsivity. It is diagnosed in children who are extremely fidgety, talk excessively, appear to be "driven by a motor", have difficulty

delaying their responses to stimuli, and frequently interrupt and intrude upon others (American Psychiatric Association, 2000). Finally, ADHD-Combined Type (ADHD-C) is diagnosed in children who meet the criteria for both of the previously discussed subtypes (American Psychiatric Association, 2000). As with the majority of disorders, not all children diagnosed with ADHD exhibit the exact same behaviours, but a specific pattern of behaviour must be apparent in order to diagnose this condition.

### *Current Conceptualization of ADHD*

The current understanding of ADHD (specifically for Hyperactive/Impulsive and Combined Types) follows a neurological model proposed by Russell Barkley (1997). His conceptualization of ADHD is as a primary deficit of behaviour inhibition that interferes with the affected child's ability to organize and regulate their behaviour across contexts (Barkley, 1997; 2005). This struggle with inhibiting one's actions is thought to negatively influence four executive functions that depend on the inhibition of behaviour. Executive functions have been conceptualized as higher order abilities that control complex behaviours such as self-control and goal-directed actions (Barkley, 1997). The specific executive functions that are theorized to be affected in children with ADHD are working memory, self-regulation of affect, motivation, and arousal, internalization of speech, and reconstitution (Barkley, 1997). Working memory involves important processes such as holding and manipulating information in one's mind, self-awareness, and a sense of time. Self-regulation of affect, motivation, and arousal includes the ability to control one's behaviour, take the perspective of others, and complete goal-directed actions. Internalization of speech constitutes the ability to converse internally with oneself in order to problem solve, engage in moral reasoning, and follow rules.

Reconstitution involves the analysis and synthesis of behaviour, and the ability to behave in a fluent manner (Barkley, 2005).

As a result of deficits in these four areas of executive functioning, children with ADHD will often exhibit difficulty completing tasks that involve the use of them.

Additionally, motor control that is related to the four affected executive functions is compromised and children with ADHD will often have some difficulty controlling their motor movement when executing complex, goal-directed behaviour (Barkley, 1997).

This view of ADHD, which is accepted by many other researchers and practitioners in the field, views the disorder as a problem of executive function that children cannot control or change (Barkley, 1990).

It is important to note that limited research has been conducted with children diagnosed with ADHD-Inattentive Type, but it is thought that their executive function abilities may differ from children with the other subtypes of ADHD (Barkley, 1997).

Additionally, it has been found that there are reduced risks associated with the inattentive subtype of ADHD when compared with the other types. It is speculated that this is the case because the inattentive subtype lacks behaviours related to impulsivity, which have been more strongly associated with negative outcomes (Goldstein & Rider, 2006).

### *Negative Outcomes*

When viewed as a neurological condition, it can be understood how debilitating ADHD can be for those affected by it. In addition to, and partially as a result of, impairing the executive functioning of a child, ADHD is often associated with social, emotional, and behavioural deficits, and, as a result, can be viewed as a risk factor for negative outcomes (Barkley, 2005; Deault, 2010; Modesto-Lowe, Yelunina, & Hanjan,

2011). Risk factors are considered to be aspects of an individual's life that predict or are strongly associated with undesired or negative outcomes (Masten, Herbers, Cutuli, & Lafavor, 2008). It has been established that children with ADHD may have multiple lifelong negative outcomes associated with their disorder (Goldstein & Rider, 2006). Specifically, children with ADHD often have difficulty interacting with peers and generally have lower social skills than children without this disorder (Al-Yagon, 2009). Additionally, children diagnosed with ADHD are more likely to obtain additional mental health and educational diagnoses (Faraone, Biederman, & Monuteaux, 2002) and are at greater risk for academic failure than their peers (Barbarese, Katusic, Colligan, Weaver, & Jacobsen, 2007). A diagnosis of ADHD in a child has also been found to be related to disturbances in the functioning of their family, such as conflict in the child-parent relationship and increased parental stress (Deault, 2010; Johnston & Mash, 2001). These potential negative outcomes demonstrate how ADHD not only affects the individual child, but also their family and friends.

Many children with ADHD go on to have difficulties and poor outcomes in multiple areas of functioning, including academic, social, and behavioural functioning (Klein & Mannuzza, 1991). However, not all children with ADHD will have negative life outcomes; some may function well in a variety of domains (Hechtman, 1991; Molina et al., 2009). Further, it has been found that a small percentage of children with ADHD will have a generally positive transition into adulthood and will experience some level of success in different areas of functioning (Goldstein & Rider, 2006). An explanation that has been offered for why some children succeed despite challenging circumstances, such as a diagnosis of ADHD, is the concept of resilience.

## **Resilience**

Resilience describes positive or successful outcomes in a person's life despite their experiences of significant adversity (Masten, 2001; Luthar, Cicchetti, & Becker, 2000). It involves the positive adaptation of a system during or after experiencing a disturbance to functioning (Masten et al., 2008). Resilience is a construct that involves two essential measurable elements: the presence of a significant threat to development (often called a risk factor) and a good developmental outcome or adaptation (Kim-Cohen, 2007; Masten, 2001). This developmental adaptation has been researched and measured in several different ways (Luthar et al., 2000). Multiple researchers have considered good developmental outcomes to be demonstrated as societal competence, described as a pattern of effective adaptation in the environment (Masten & Coatsworth, 1998). Competence may not involve adaptive accomplishment that is beyond what most individuals achieve; rather, it describes adaptation that is similar to the majority of the population when looking at a variety of tasks that are important to society (Masten & Coatsworth, 1998). These tasks have been called developmental tasks, and are those that have common criteria across communities and cultures who deem them to be important (Havinghurst, 1972). For example, a developmental task that is considered important in most societies for young children is the development of a close relationship with their primary caregiver (Masten & Coatsworth, 1998).

Children able to demonstrate resilience by overcoming adversity were originally thought to be extraordinary and rare (Prince-Embury, 2007). More recently, however, the process of resilience has been identified as a typical response to adversity that arises from human adaptational systems, such as those related to the development of cognition,

relationships between children and their caregivers, regulation of behaviour and emotion, and motivation to learn and engage with the environment (Masten, 2001). Therefore, if these systems have developed normally, many adverse situations can be overcome. In contrast, anything that could compromise the functioning of these adaptational systems is a threat to resilience and if the systems are impaired, the risk for poor developmental outcomes is much greater (Masten, 2001). Unfortunately, children who face the greatest adversity often don't have access to the specific resources, also called protective factors, required to nurture the development of key adaptational systems (Masten, 2001).

### *Protective Factors*

Resilience has become a topic of interest relatively recently, and research has looked at resilience in children within many different adverse contexts, including war, family violence, and poverty (Masten and Coatsworth, 1998). A multitude of studies have identified specific qualities related to better psychological functioning or competence (Masten & Coatsworth, 1998). These qualities have been labelled protective factors and consist of specific aspects of the many different contexts that children develop in, including systems such as family, peer groups, schools, and communities (Bronfenbrenner, 1979; Masten, 2001). Protective factors can encompass those variables that are internal to the child, such as intelligence (Brooks, 1994), achievement motivation, effective stress management (Masten & Coatsworth, 1998; Masten et al., 2008), self-regulation skills, and self-efficacy (Luthar et al., 2000). Additionally, protective factors can be aspects of a child's environment, such as positive peer relationships, effective teachers, a well functioning school environment (Masten et al., 2008), and connection to the community (Luthar et al., 2000). A final, often cited,

protective factor is a child having a positive relationship with a competent and caring adult, especially a primary caregiver (Bergin & Bergin, 2009; Brooks, 1994; Luthar & Zelazo, 2003). This connection between adult and child has been found as influential in longitudinal studies of competent children who previously experienced significant adversity (Masten, 1994). The protective factor of a strong parent and child relationship involves the adaptational system of attachment (Masten et al., 2008), which will be detailed in the following section.

These specific protective factors and their relationship to resilience has been very well established so that researchers have recently shifted away from simply identifying them and have now begun to attempt to detail how each protective factor is involved in the developmental process and specifically how each contributes to positive outcomes (Luthar, 1999). It has been indicated that positive adaptation despite exposure to risk contains a developmental progression, in that new individual strengths and vulnerabilities emerge as life circumstances are altered due to developmental stage (Kim-Cohen, 2007; Werner & Smith, 1982).

### **Attachment**

As discussed previously, attachment is often cited as an aspect of a child's world that commonly predicts resilience (Grossman, Grossman, & Waters, 2006; Masten et al., 2008); it has also been considered the foundation of socioemotional well being and fundamental to human adaptation and development (Bergin & Bergin, 2009; Masten & Coatsworth, 1998). A close bond with a parent has been associated with positive outcomes in the lives of typically developing children, as well as children experiencing high risk familial environments consisting of marital discord and abuse (Masten &



Coatsworth, 1998; Taylor, 2010). Alternatively, a lack of attachment has been found to be a risk factor for poor social, emotional, and academic outcomes (Al-Yagon, 2009; Bergin & Bergin, 2009). Attachment has been defined as a deep and enduring bond that connects one person to another (Bowlby, 1969) and is maintained over time and distance (Ainsworth, 1979). Further, attachment is thought to serve a survival purpose because infants require the protection and support of their parents in order to function (Ainsworth, 1979; Bowlby, 1988). Children are likely to only be attached to a select few people and infants usually first become attached to their primary caregiver (Ainsworth, 1973). It is theorized that children's experiences with their early caregivers, usually their parents, have a large impact on their internal mental representations of both their caregivers and themselves (Bretherton & Munholland, 1999). As a result, these early interactions provide the child with a template for interpreting later experiences in their relationships with others (Green, Stanley, & Peters, 2007; Taylor, 2010); this attachment-specific schema is often called an Internal Representational Model (IRM; Bowlby, 1988).

### *Types of Attachment*

Two distinct forms of attachment have been outlined in research. The first of these is secure attachment, in which the child feels a sense of safety when with their attachment figure and sees them as responsive and able to meet their needs (Ainsworth, Blehar, Waters, & Wall, 1978). Children who are securely attached will seek comfort from their attachment figure when they are distressed, but feel comfortable exploring their world without their attachment figure's constant presence. In middle childhood, children who are securely attached to their caregivers may tolerate and even desire more separation from them; however, this feeling is dependent on their knowledge that their

attachment figure is available if needed (Bergin & Bergin, 2009; Stevenson-Hinde & Verschueren, 2002). Secure attachment is exemplified in middle childhood by an open, positive, and engaged interaction style between child and caregiver (Behrens, Hesse, & Main, 2007). Furthermore, in a secure attachment relationship, caregivers are aware of their children's needs, demonstrate interest in their activities, and provide assistance and reassurance to their children (Crittenden, 1992).

A secure attachment system provides soothing and stimulation of emotions in infants who have not yet learned to regulate their own feelings and behaviour (Carlson & Sroufe, 1995). This assistance with regulation helps children eventually develop their own emotional regulation skills, which become immensely important as children age (Carlson & Sroufe, 1995); this is also an area that children with ADHD struggle in (Barkley, 1997), leading to some speculation in the research connecting this disorder and an insecure attachment pattern.

The second form of attachment, as outlined by Ainsworth and colleagues (1978), is insecure attachment. This attachment pattern is theorized to develop when a child engages in attachment-related behaviours, such as seeking comfort and reassurance, and his or her parent responds to these behaviours with rejection, indifference, inconsistency, or intrusiveness, which creates anxiety in the child about future parental response (Deault, 2010). Insecure attachment has been further divided into avoidant, resistant, and disorganized attachment styles (Main & Solomon, 1990). Children with an avoidant attachment pattern may not display a preference for their attachment figure over other adults and may not seek contact when they are distressed. Those with a resistant pattern of attachment do not obtain feelings of security from their attachment figures and

although they seek contact when distressed, are not comforted by it. The disorganized attachment pattern is manifested in children as a lack of consistent responding to their attachment figure (Behrens et al., 2007; Bergin & Bergin, 2009). Children who are insecurely attached may not choose their attachment figure over other people, may refuse to leave their attachment figure, or may demonstrate a confused mixture of these two responses (Crittenden, 1990).

Two main ways to approach attachment patterns have been established in research methods. Some researchers look specifically at categories of attachment, either dividing participants into secure and insecure, or detailing which type of insecure attachment patterns fits them best (Crittenden, 1990). This research style has been cited as problematic, as many children do not fit well into specific categories (Bergin & Bergin, 2009). The alternative technique is to use a continuum of attachment security, and place participants along this continuum in order to combat the problematic features inherent to categorization (Crittenden, 1990).

One area of functioning that has been implicated in the development of the attachment relationship is the ability to self-regulate one's behaviour and affective state (Cassidy, 1994). A relationship between ADHD and self-regulation has been suggested frequently in various studies, and the neurological model conceptualizes ADHD generally as a disorder of self-regulation (Barkley, 1997). This possible connection between ADHD and attachment will be further explored in the following section.

### **The Relationship Between ADHD and Attachment**

When considering resilience and protective factors in the context of ADHD, several viewpoints can be presented. The first is that having ADHD could be seen as a

risk factor, as the executive functions the disorder impairs likely have a negative affect on the adaptational systems required for resilience, assuming that the adaptational systems require higher order executive functions to properly operate. The second conclusion is that ADHD could also be viewed as a deficit that takes away specific protective factors from the individual with the disorder. For example, children with ADHD have difficulty with self-regulation (American Psychiatric Association, 2000); this has been established in the literature as a protective factor (Masten et al., 2008). Both of these positions indicate that ADHD has an impact on a child's resilience. However, as stated earlier, many children with this disorder have positive long-term outcomes, implying that they are resilient in some way. While there are many other protective factors that could be discussed in the context of resilience in children with ADHD, attachment, or the positive connection between a child and a caring adult, will be the focus of this research.

There is limited research on attachment in children with ADHD. However, several studies have looked at the effects that ADHD may have on the attachment of children with the disorder. One study found that children with co-occurring ADHD and a Learning Disorder (LD) had less secure attachment with their primary caregiver when compared to children without disorder (Al-Yagon, 2009). It was hypothesized that perhaps the attachment problems in children with ADHD and LD contributed to their negative outcomes in the areas of socioemotional and behavioural functioning (Al-Yagon, 2009). Clarke, Ungerer, Chahoud, Johnson, and Stiefel (2002) found evidence that ADHD is associated with insecure attachment patterns that were consistent with a disorganized style. However, this study had a small sample size and the measures it used were not all specifically validated for attachment, which puts the study's results into

question. A third study done by Bergin and Bergin (2009) examined ADHD and attachment in a somewhat opposite way and concluded that secure attachment in children is associated with a lack of ADHD symptomology. A final study presented a way of viewing ADHD as a response to insecure attachment (Erdman, 1998), but this perspective has not had additional support in the literature.

### **The Present Study**

Although much is known about the risk factors associated with a diagnosis of ADHD, it is readily apparent that there is a paucity of direct and robust empirical research surrounding resilience in children with this disorder (Chen & Taylor, 2006; Goldstein & Rider, 2006). Additionally, research is still unclear about attachment security in children with ADHD. Therefore, this study was a preliminary exploration of the two constructs in children diagnosed with this disorder. Specifically, this research intended to examine attachment and resilience, and how they are associated, in children with ADHD. Furthermore, this study examined the agreement between parents and children on their ratings of their attachment relationship.

This investigation was done in the context of a larger research project entitled *Strengths in ADHD: Promoting Positives in Challenging Children*, which is being undertaken at the University of Calgary. Researchers have indicated that it is imperative to better understand the variables that predict positive outcomes in the ADHD population, so that these can be used to mitigate the negative impact of having this disorder (Goldstein & Rider, 2006). Discovering these variables is the overarching goal of this research project. The *Strengths in ADHD* project and the present study follow a strengths-

based model of ADHD that places an emphasis on the development of positive skills and competence in spite of having ADHD (Brooks & Goldstein, 2001).

As the majority of previous research has used correlational methods to establish a relationship between attachment and resilience, the present study also employs methods that are correlational in nature. Due to restrictions in this study to manipulate the constructs of interest, it is extremely difficult to determine through research if the relationship between attachment and resilience is predictive (Masten & Coatsworth, 1998). Additionally, given the preliminary nature of the present investigation, correlation will be used as an initial exploration of the relationships between the variables of interest.

Although research involving attachment and resilience in children with ADHD is limited, several studies have examined the relationship in some regard, and these will be used to inform the following hypotheses:

1. Given that previous research has indicated lower attachment security and resilience in children with ADHD when compared with those without the disorder (Al-Yagon, 2009; Deault, 2010), participants of the study are expected to have lower scores on the resilience and attachment measures (RSCA and PRQ-AS) when compared to the normed samples of each measure.
2. As a result of the preliminary nature of the current study, the agreement level between the parent and child ratings of attachment, obtained through the ASC and the PRQ-AS, cannot be specifically predicted. Previous research on other scales, such as those rating ADHD symptoms by both a child diagnosed with ADHD and his or her parents, have shown inconsistent findings, with some

demonstrating differing responses (Rothen et al., 2009) and others finding a large amount of consistency (Jerrett & Wolff, 2007). No studies were found that looked specifically at attachment rating scales in this population; however, based on related studies, it is hypothesized that there may be some inconsistency between parent and child attachment reports.

3. Due to limited research looking directly at the relationship between attachment and resilience in the population of interest, the relationship of the PRQ-AS and the ASC with the RSCA cannot be predicted with confidence. The main goal of the present study is to do an initial investigation of this relationship. In previous work with other populations, a strong relationship between attachment and resilience has been found (Masten et al., 2008), but the data obtained should provide an indication of whether this pattern also emerges in children with ADHD.

## CHAPTER 2: METHOD

### Participants

The participants were 37 children aged 8 to 11 who had been previously diagnosed with any of the three subtypes of ADHD. Additionally, some of the children's parents also participated in the research study, with 35 mothers and 26 fathers participating. Each child involved in the study had at least one parent participating and some children had two parents participating.

Participants were recruited from Calgary, Alberta, through a variety of means. First, presentations and brochures advertising the project were given to several local community organizations that provide services to families with children with ADHD. Second, clients of the University of Calgary Applied Psychological and Educational Services (U-CAPES) were contacted and asked if they would be willing to participate. Third, the project was advertised through a segment on a local television station, in a newspaper, and in community newsletters. Lastly, information was provided about the project to schools within the Calgary Board of Education (CBE).

Of the participants, 30 were male and 7 were female. This gender discrepancy is similar to what is expected in the general population of children diagnosed with ADHD, which has been established as a male to female ratio ranging from 2:1 to 9:1, depending on the subtype and setting being considered (American Psychiatric Association, 2000). The average age of the participants was nine years and six months old, with a generally even spread across the ages (20% were 8 years old, 32% were 9 years old, 24% were 10 years old, and 24% were 11 years old). Information about the child's diagnosis of ADHD was obtained from the parents, who were asked when their child was diagnosed,



what type of professional provided the diagnosis, and what subtype was given for the diagnosis. It was found that 51% had been diagnosed with ADHD-C, 9% had been diagnosed with ADHD-HI, 16% had been diagnosed with ADHD-I, and 24% of parents did know the subtype provided for their child's diagnosis. Parents were also asked if the child participants had been diagnosed with any additional educational or mental health diagnoses and it was found that the majority of participants (65%) did not have any additional diagnoses. The most frequently occurring comorbid diagnosis for the children in this study was a Learning Disorder (19%), Oppositional Defiant Disorder (ODD; 3%), a Language Disorder (5%), or another, nonspecified disorder (8%). Each participant's medication status was also recorded from parental report and it was determined that 27 out of the 37 participants were currently taking medication for attention-related concerns. Of these 27 participants, 23 were on medication during the testing process and 4 were not, as it was the parents' choice to medicate their child on testing days based on the routine medication program established for each child.

Participants were reimbursed for their participation in this research study. The child participants were provided with a small toy for each of the two days they took part in the study (value of 5 to 10 dollars), and parent participants were given a gift card valued at 25 dollars to a family friendly vendor.

## **Measures**

### *Demographic Information*

An intake form was created to gather information about the child participants' age, grade, gender, diagnoses, and other relevant demographic information. Parents completed this form.

### *Resilience*

The Resilience Scales for Children and Adolescents (RSCA; Prince-Embury, 2007) were used to measure the resilience of child participants. This scale was designed to assess personal qualities that are related to resilience in youth aged 9 to 18 (Prince-Embury, 2007). It is important to note that this measure was extended downward and used to measure resilience in children aged 8 as well as older children. The RSCA consists of three scales. The Sense of Mastery scale (20 items) looks at the youth's optimism, self-efficacy, and ability to adapt by learning from mistakes, asking for help, and receiving feedback. The Sense of Relatedness scale (24 items) evaluates the youth's feelings of trust with others, perceived access to supports, comfort when around others, and tolerance of different people's thoughts and beliefs. The Emotional Reactivity scale (20 items) measures the youth's sensitivity to adverse circumstances, the time it takes for them to recover from emotional reactions, and the amount that the youth's emotional reactions impairs their ability to regulate their emotions effectively. The RSCA also contains several subscales within each of the three scales, but these were not considered in the present study.

The RSCA consists of a total of 64 items, and each item has five response choices, ranging from 0 (Never) to 4 (Almost Always). A T score is provided for each of the three scales; T scores within 46 and 55 are considered to be in the Average range. For the Sense of Mastery and Sense of Relatedness scales, T scores 45 and below indicate vulnerability, and for the Emotional Reactivity scale, T scores above 55 indicate vulnerability.

Prince-Embury (2007) provided several estimates of reliability and validity for the RSCA. Internal consistency for the standardization sample of children aged 9 to 11 years was reported to be 0.85 for the Sense of Mastery subscale, 0.89 for the Sense of Relatedness subscale, and 0.90 for the Emotional Reactivity subscale (Prince-Embury, 2007). The test-retest reliability based on the standardization sample of children aged 9 to 14 years was found to be high, with corrected correlation coefficients of 0.79 for the Sense of Mastery scale, 0.84 for the Sense of Relatedness Scale, and 0.88 for the Emotional Reactivity Scale. A confirmatory factor analysis was completed on the items and it was found that the current three-factor model fits best when compared to other model options. Additionally, scores on the RSCA scales were correlated with scores from other related and unrelated measures and convergent and divergent validity was established.

#### *Attachment: Parent's Perspective*

The Parenting Relationship Questionnaire-Attachment Scale (PRQ-AS; Kamphaus & Reynolds, 2006) was used to measure the attachment relationship between parent and child from the perspective of the parent participants. The PRQ uses a seven point rating scale to evaluate multiple aspects of the parent-child relationship and was developed and standardized for children aged 2 to 18 years. The Attachment Scale, which was the only scale used for the purposes of this study, is used to measure the feelings of closeness, understanding, and empathy that comprise the attachment relationship between child and caregiver. To do this, the scale assesses the parent's awareness of his or her child's emotions and thoughts and the parent's ability to comfort

the child if needed. The PRQ-AS contains 11 items that assess a variety of aspects of attachment.

Instead of providing a classification of attachment style (i.e., secure or insecure), the PRQ-AS assesses the parent's perspective of the affective, cognitive, and behavioural relationship with his or her child, and employs T scores and related qualitative descriptors to describe this relationship. An attachment score in the At Risk or Clinical range (a T score of 40 and under) indicates that there may be an insecure relationship between parent and child. Conversely, an attachment score in the Average to High ranges (a T score of 41 or above) may indicate a secure relationship between child and caregiver.

The PRQ contains several validity indices to assess the quality of the responses; these include assessments of excessive positive responding, excessive negative responding, and a lack of consistency in responses. When examining these indices for the participants in the present study, no elevated scores were found, demonstrating high quality responses from the parent participants.

Kamphaus & Reynolds (2006) reported several acceptable measures of reliability and validity for the Attachment Scale. Internal consistency for the standardization sample of children aged 6 to 9 years was 0.82 for females and 0.86 for males. For children aged 10 to 12 years, internal consistency rates were 0.84 for females and 0.83 for males. These estimates indicate satisfactory internal consistency across the Attachment scale. The test-retest reliability for this scale was reported to be an adjusted correlation coefficient of 0.76. To establish validity, the PRQ scales were intercorrelated with one another, and acceptable correlations were found. Additionally, the PRQ was correlated with related measures and convergent validity was established.

Kamphaus and Reynolds (2006) focused on a variety of clinical groups when assessing the validity of the scale. The authors reported a mean T score of 46.4 for the Attachment Scale when 334 parents of children with ADHD completed the measure. This mean T score is within the average range; however, it is lowest attachment score of all the clinical groups examined, including children with mental retardation, a learning disability, or a speech and language disorder.

*Attachment: Child's Perspective*

The Attachment Scale for Children (ASC) was the second measure used to measure the construct of attachment. It was created by the researchers in this study to measure the attachment relationship between parent and child from the perspective of the child participants. The ASC was developed because of the lack of measures available that were developed for assessing the child's perspective on the attachment relationship with their caregiver. Instead, the ASC was developed by creating mirroring questions to the PRQ-AS, in order to facilitate easier comparison between the parent and child's responses. For example, an item of the PRQ-AS is: 'I know when my child will become upset' (Kamphaus & Reynolds, 2006). The ASC contains an item that reads: 'My parent knows when I will become upset'. Due to the child-focused nature of a relationship between parent and child, the ASC questions focus on parental response to the child, rather than the child's response to the parent. As the PRQ was completed by both parental participants (if possible), separate but identical ASC scales were created for mother and father. The creation of these alternate forms allows for comparison across a variety of domains.

In order to assess the reliability of the items on the ASC, an inter-item consistency test was conducted. For the ASC-Mother scale, Coefficient alpha was found to be 0.56, which is below the typically accepted cut-off score for scale development, usually cited as 0.7 or higher (Streiner & Norman, 2003). However, the Coefficient alpha for the ASC-Father scale was 0.80, which does meet the target score. This variation between the two scales may be due to the small number of items on each scale, as well as the overall small sample size in the study. Regardless, it appears that the individual items on each scale are related to some degree, but not too closely related, indicating a level of reliability in the measure.

Basic validity was established through a comparison of the ASC to theoretically similar and dissimilar scales. Specifically, it was hypothesized that a scale measuring attachment such as the ASC should be significantly related to a scale measuring the strength of communication between parent and child. Both ASC scales (mother and father) were found to be moderately correlated with the Communication scale contained within the PRQ ( $r=0.47$  for the mother form and  $r=0.39$  for the father form). Further, it was hypothesized that an attachment measure would be unrelated to a scale that assesses a parent's satisfaction with his or her child's school performance. This was confirmed through correlational testing, which revealed that both ASC forms were not significantly related to the Satisfaction with School scale on the PRQ ( $r=0.12$  for the mother form and  $-0.12$  for the father form).

## **Procedure**

Recruitment took place on multiple levels, including through the distribution of brochures, advertisements in local media, and contacting previous clients of the U-

CAPES clinic. As this study was a part of a larger research project, it was described to potential participants as a positive-focused investigation looking at the strengths of children with ADHD that may lead to later success. If potential participants exhibited interest in the study, a short pre-screening questionnaire was administered over the phone to ensure they qualified to participate. Several inclusion criteria were specified; child participants must have had a previous diagnosis of ADHD provided by a professional such as a physician, psychologist, or psychiatrist, and they had to have been residing with their parent(s) for at least five years, be attending school full-time, and have no previous diagnoses of autism or severe neurological, sensory, or motor impairments.

If individuals qualified to participate, two appointments at the University of Calgary were scheduled for the child and his or her parents. Parents were emailed a copy of the consent form for review prior to their initial appointment. Before beginning the first session, a researcher went over the consent form again with the parent and child, ensuring that the child had an understanding of the research project and what participation would entail. Each appointment was approximately three hours, during which time the parent participant completed multiple questionnaires related to the overarching research project, including the PRQ. The child participant worked with a researcher to complete several questionnaires, including the RSCA and the ASC, and was also administered a variety of assessment measures. Several of these questionnaires and assessment measures were used to meet additional inclusion criteria. Specifically, the child was required to have a Full Scale Intelligence Quotient (FSIQ) greater than or equal to 85, as measured by the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999) and have a T score of 70 or above (2 standard deviations above the mean) on

DSM-IV-TR inattentive or hyperactive/impulsive scales on the Conners-3 Rating Scale (Conners, 2008). Upon completion of each appointment, the child was given a small toy and the parents were provided with a 25-dollar gift card at the end of the second appointment as reimbursement for their participation. Refreshments were also available throughout each of the sessions. Participants were informed that they would be provided with global results of the research project upon completion if they wished.



### CHAPTER 3: RESULTS

Upon completion of both testing sessions, data gathered from each participant was entered into a statistical analysis program. Due to small sample size and the nature of the data collection process, there were no missing item responses for any the measures. Scatterplots and histograms were examined and it was established that all variables had a linear relationship with one another. After examining these graphs and the data itself, no extreme outliers were identified and therefore no data points were deleted or adjusted.

#### **Descriptive Statistics**

Means and standard deviations for the PRQ-AS, ASC, and RSCA are detailed in Table 1. For the PRQ-AS completed by the mothers of the participants, the mean value was 47.29 (SD=8.85), which is within the typical range of attachment security (Kamphaus & Reynolds, 2006). Similarly, the mean score for the fathers of participants on this measure was 43.62 (SD=9.01), which is also within the typical range. It is important to note that some variability existed in the responses for the PRQ-AS. Specifically, 29% of mothers and 35% of fathers rated their child's attachment security in the At Risk or Clinical range (a score of 40 or under). However, the majority of parents indicated that their child's attachment security was in the Average range or above. Child participants completed the ASC about their relationship with both their mother and father and similar means were established for each. The mean child-rated score for mothers was 30.51 (SD= 6.67), while the mean score for fathers was 28.97 (SD=6.43). For the three scales of the RSCA, means within the Average range, compared to the standardization sample, were determined. For the Sense of Mastery, Sense of Relatedness, and Emotional Reactivity scales, means of 51.51, 51.40, and 47.91 (SDs=10.69, 12.20, and 9.31)

respectively were established. Again for these scales, there was some variance in the sample; however, values overall were within the Average range (Prince-Embury, 2007).

### **Correlations between Attachment Scales**

As a first step, comparisons were made between the parental ratings on the PRQ-AS. Additionally, the parent ratings on the PRQ-AS were compared to the child ratings on the ASC, separated by gender of the parent. The Pearson product-moment correlation coefficients (two-tailed) for the ASC and PRQ are displayed on Table 2. When looking at parental agreement, no significant relationship was found to exist between the parents' ratings about their child's attachment security.

Regarding the similarity between parent and child ratings, the PRQ-AS completed by the mothers was found to have a significant moderate association with the ASC scale that the participants completed about their mothers. A significant correlation was not established between father and child ratings of the attachment relationship.

### **Correlations between Attachment and Resilience**

Table 2 also shows the Pearson product moment correlations coefficients (two tailed) between each of the two attachment scales and the resilience scale. A significant moderate relationship was found between the PRQ-AS completed by the mothers of participants and the child-rated Sense of Relatedness Scale on the RSCA. Significant moderate associations between the child-completed ASC (both mother and father forms) and the Sense of Relatedness scale were also established. No other significant correlations between the attachment or resilience scales emerged in this analysis.

### **Resilience Differences in Attachment Groups**

In order to further investigate the finding that approximately one-third of parents rated their attachment with their child in the At Risk or Clinical ranges, independent samples *t* tests were performed. Participants were separated into two groups based on their PRQ-AS scores; values within the Average or High Average ranges (above 40) comprised one group and scores within the At Risk or Clinical ranges (40 and below) made up another. This was done separately for the PRQ-AS completed by mothers and that completed by fathers of participants, as there was some variation between the two parents' ratings. These two attachment groups were then compared on the basis of the three scales of the RSCA, in order to see if the resilience of the groups differed in relation to rated attachment security. Table 3 contains the values for each comparison. Levene's Test was not significant for all of the groups, indicating that the variances of each are similar. Only one statistically significant difference was found; the Average and High Average attachment group scored significantly higher (at the .05 level) than the At Risk and Clinical attachment group on the child-rated RSCA Sense of Relatedness scale.

## CHATER 4: DISCUSSION

This study was conducted in the context of an innovative research project entitled *Strengths in ADHD: Promoting Positives in Challenging Children*, which aims to explore possible areas of strength in children with ADHD that may help them build resilience. The purpose of this specific research was to conduct a preliminary investigation of attachment and resilience in children diagnosed with ADHD, as well as examine the relationship between these two constructs in this population. This study fills a gap in the literature on children with ADHD, as it utilizes a strengths-based perspective while focusing on attachment, a construct rarely studied in children with this disorder. A secondary purpose of this study was to examine agreement between parent and child raters when completing self-report scales evaluating their attachment relationship. Previous research has found inconsistent results regarding this agreement in children affected by ADHD and their parents, and no studies have specifically looked at attachment ratings, so results of this study provide initial findings in this area as well.

Several hypotheses for the study's results were developed based on previous, though limited, research done in this area. The findings were somewhat consistent with these hypotheses; however, some results were contrary to previous studies. Hypothesis 1, which suggested that children with ADHD would have lower attachment and resilience compared to their typical peers, was not supported. Previous, deficit-focused, research has indicated that children diagnosed with ADHD have poorer outcomes in a variety of domains, leading to lowered resilience (Deault, 2010; Faraone et al., 2002; Johnston & Mash, 2001), but this study found average self-reported resilience levels in children with ADHD, when compared to the standardization sample. Specifically, for the RSCA, the

participants reported a mean score that fell within the average range for all three scales, indicating that they see themselves to be well functioning in their abilities to accomplish tasks, relate to others, and control their emotions.

Regarding the participants' attachment security, findings from this study were somewhat discrepant from previous research. Although several studies (Al-Yagon, 2009; Clarke et al., 2002, for example) supported the theory that children with ADHD have a lower attachment security with their caregivers when compared to other children, this was not generally the case in the present study. The mean score of the PRQ-AS demonstrates that overall, parents of participants believe their children to have attachment security within the typical range, when compared to the standardization sample. However, there was some variability in parental ratings on this measure, and approximately one third of both mothers and fathers rated their children's attachment security in the At Risk or Clinical ranges. When those participants with At Risk or Clinical ratings were put into a group and compared to those with Average to High Average ratings, only one significant difference was observed. Specifically, children with low mother-rated attachment scored significantly lower than those with high mother-rated attachment on the RSCA Sense of Relatedness scale. These results indicate that while the majority of parents consider their children to have secure attachment, quite a large minority of parents do not. Further, those children whose parents noted attachment concerns reported the relatedness aspect of their resilience to be significantly lower than those children whose parents did not have attachment concerns. While this finding does not fully support a relationship between the two constructs of attachment and resilience, it indicates that they may be somewhat linked on a relational level.

Hypothesis 2 did not specifically predict the relationship between parent and child ratings of attachment, but did indicate some inconsistency in previous research. In the present study, a moderate level of agreement was found; however, inconsistency was present in these findings as well. The PRQ-AS (scale completed by the mothers of participants) and the ASC (scale completed by child participants about their relationship with their mothers) were found to be moderately correlated, suggesting that the participants and their mothers have similar perspectives on their attachment relationship. This association was not found for fathers of participants, which may be partially due to the smaller sample size of fathers participating in this study. Also related to Hypothesis 2 is the consistency of rating between parents. The present study found no significant relationship between parental ratings of the attachment relationship. These findings are contrary to high levels of parental agreement regarding ADHD symptoms in a study done by Langberg and colleagues (2010); however, this may be explained by the fact that each parent experiences their attachment relationship with their child differently.

No specific predictions were made in Hypothesis 3, although it was speculated that attachment and resilience might be related in children with ADHD, due to the constructs' strong relationship in other populations (Bergin & Bergin, 2009; Masten et al., 2008). This was somewhat supported in the present research findings, with a moderate association emerging between mother-rated attachment and the relationship-based resilience scale. Additionally, a moderate correlation was found between child-rated attachment with both parents and the same resilience scale. These relationships would likely follow, as attachment would be expected to have a large impact on the child's feelings of support, trust, and comfort in their parental relationship, which is what

the Sense of Relatedness scale measures and this is conceptualized to be a facet of resilience. Attachment is less theoretically related to the other two resilience scales. This finding, taken together with the results related to Hypothesis 1, indicates that children with strong attachment security feel that their caregiver understands them, cares about them, is available to them in times of need, and is someone they can share things with. These feelings toward another person naturally support more successful outcomes, especially when dealing with a challenging experience such as a diagnosis of ADHD. However, due to the moderate correlations and minimal significant differences found between the scales, one cannot conclude from the results that attachment and resilience are strongly related; rather, it can be inferred that one aspect of resilience, feelings of relatedness, are somewhat associated with attachment in children with ADHD.

### **Implications**

Although the results of this study did not show a strong link between attachment and resilience in children with ADHD, they did show a partial association between the two constructs, specifically in a sense of relatedness, which has been established as a facet of resilience (Prince-Embury, 2007). The lack of correlation between attachment and the other elements of resilience may be due to multiple factors. First, attachment is less theoretically related to feelings of mastery and emotion regulation abilities, and it may be the case that a strong attachment with a caregiver does not influence these two aspects of resilience. Second, the small sample size and the fact that the sample may not fully represent the population (see the following section) could have played a role in the results, and further associations may have emerged with a larger and more representative sample of children with ADHD. This can be specifically observed in the fact that the

scale completed by fathers of participants, a sample that was substantially smaller than the others, did not have significant correlations or differences with any of the other scales. This may have not been the case given a larger number of participating fathers. Despite the observed relationship between attachment and resilience being minimal, it is clear that the relational aspects of these two constructs are somewhat associated.

This study's findings indicate that the majority of parents in the sample believe their children to have an adequate level of attachment security, and overall, the children participants believe they have a typically developed level of resilience. While there are some issues with these findings, such as a reliance on self-reports, which will be addressed in the following section, they are still valuable to the literature surrounding this topic.

The findings of the current study have several potential implications for intervention strategies employed to reduce the effects of ADHD in home, school, and formal treatment settings. Resilience has been related to a variety of successful outcomes in children, and while it appears that attachment may not be the most important protective factor required to build resilience in children with ADHD, it may still have a role to play. Specifically, building an attachment relationship during the treatment process, regardless of the treatment type, may help increase the child's feelings that they have someone to talk to who cares for and understands them. These feelings, because they are an established facet of resilience, will likely work to increase successful outcomes for children with ADHD.

According to the currently accepted, neurological model of ADHD (Barkley, 1997), the disorder is mainly biological in nature and therefore difficult to prevent and



treat. However, current researchers are still not sure of the extent to which environmental factors can provide a 'buffer' against biological risks, and therefore it is important that these protective factors, such as attachment, are emphasized in intervention models. Other protective factors may be discovered that have a stronger relationship with resilience in children with ADHD; however, attachment is still positively related to the construct. Therefore, it would not be detrimental in any way to build a strong attachment relationship with a child affected by ADHD and, in fact, it will likely benefit them on some level.

A related outcome that is implicated in the treatment of ADHD is the strengths-based model employed in this study. This research did not find that all children had strong attachment, but found that many of them did. This is a fact that should be emphasized, both in research and treatment contexts. Focusing on and utilizing the specific strengths that a child with ADHD has when engaging in treatment may be highly beneficial. Using a strengths model in research helps to determine what these strengths may be, and a strengths model in treatment will help emphasize the positive aspects of a child, rather than focusing on where he or she struggles.

This research study is preliminary in nature, and limited data was collected surrounding the constructs of interest. Further research with a larger sample size may find that stronger relationships exist between attachment and resilience, or perhaps the findings will be that these two constructs are unrelated. Regardless, conclusions and related implications cannot be fully addressed in this study, as further research needs to be done before the information can be comprehensively used to inform ADHD intervention strategies.

## **Limitations**

There are several limitations apparent in the current research study. The first of these is a small sample size overall and particularly for the fathers group, where the sample was smaller than that obtained for mothers and children. Due to the intensive data collection process as well as the specificity of the population used, it was difficult to obtain a large number of participants, which affected the variety of statistical tests that could be employed and the overall robustness of the findings. Related to this limitation is the representativeness of the sample used. Participation in this study required a large commitment of time and travel for many participants, and as a result, some individuals may have been unwilling or uninterested in taking part. Therefore, there may be specific characteristics of those who chose to participate that contributed to the findings of this study, and they may not be as generalizable as they would be if data were collected using a different strategy. The final limitation in this research is the reliance on self-report measures. Although self-report scales are often the only way to gather information about internal constructs, it is helpful to include another form of measurement in all research. Unfortunately, that was not possible in this study and only self-report measures were used. Additionally, children completing self-reports can be problematic, as they may lack insight or misunderstand questions more frequently than adults. This study did rely on children to complete some of the scales; however, the measures were standardized and found to be reliable and valid for children, which likely decreased the problems inherent to this data gathering method.

## **Future Directions**

Future research looking at attachment and resilience in an ADHD population should expand on the current research by gathering a large sample from a diverse population, which may result in more robust results that could more readily inform prevention and intervention techniques. Other areas that may be interesting and helpful to examine further would be the specific attachment patterns and their individual relationships to resilience, how attachment relates to certain positive and negative outcomes implicated in the resilience process, and how these constructs appear in adults affected by ADHD.

The current research was preliminary in nature, and therefore a much more in depth examination of attachment in children with ADHD is needed before conclusions can be made with confidence. Additionally, more research is needed into building the resilience of children with ADHD by employing their individual and environmental strengths.

## **Conclusions**

Overall, the outcomes of this study are somewhat inconclusive regarding attachment as a strength for children with ADHD. Although identified as one by the majority of parental participants, further research with a larger sample size is needed to better determine the attachment pattern of children affected by this disorder. Similarly, it appears that attachment is associated with the relational aspect of resilience in this population; however, more investigation is required to better detail the relationship between the constructs. Modesto-Lowe and colleagues (2011) have recently suggested that contemporary research goals should be to identify the processes that account for

positive development in children affected by ADHD. The present study offers a preliminary exploration of a small piece of that puzzle, and emphasizes the importance of further research in this area. In addition, studies looking at areas of strength in children with ADHD will help inform more effective prevention and intervention strategies that rely on where children are doing well to help improve the areas that they struggle in.

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**Table 1: Descriptive Statistics for Attachment and Resilience**

|                                 |                                 | M     | SD    |
|---------------------------------|---------------------------------|-------|-------|
| Completed by Mothers<br>(N=35)  | PRQ-AS (Mother)                 | 47.29 | 8.85  |
|                                 | PRQ-AS (Father)                 | 43.62 | 9.01  |
| Completed by Fathers<br>(N=26)  | ASC (Mother)                    | 30.51 | 6.67  |
|                                 | ASC (Father)                    | 28.97 | 6.43  |
| Completed by Children<br>(N=37) | RSCA Mastery Scale              | 51.51 | 10.69 |
|                                 | RSCA Relatedness Scale          | 51.40 | 12.20 |
|                                 | RSCA Emotional Reactivity Scale | 47.91 | 9.31  |

**Table 2: Intercorrelations for Attachment and Resilience**

| Variable                           | 1     | 2    | 3     | 4     | 5     | 6     | 7    |
|------------------------------------|-------|------|-------|-------|-------|-------|------|
| 1. PRQ-AS (Mother)                 | —     | .35  | .46** | .23   | .28   | .37*  | -.11 |
| 2. PRQ-AS (Father)                 | .35   | —    | .24   | .30   | .30   | .39   | -.16 |
| 3. ASC (Mother)                    | .46** | .24  | —     | .64** | .22   | .35*  | .30  |
| 4. ASC (Father)                    | .23   | .30  | .64** | —     | .30   | .47** | .17  |
| 5. RSCA Mastery Scale              | .28   | .30  | .22   | .30   | —     | .66** | -.29 |
| 6. RSCA Relatedness Scale          | .37*  | .39  | .35*  | .47** | .66** | —     | -.33 |
| 7. RSCA Emotional Reactivity Scale | -.11  | -.16 | .30   | .17   | -.29  | -.33  | —    |

<sup>a</sup>*N* = 37 children (7 female, 30 male), 35 mothers, 26 fathers

\**p* < .05. \*\**p* < .01.

**Table 3: Resilience Differences in Attachment Groups**

|                                 |   | <u>Mother (N=35)</u> |       |    |     | <u>Father (N=26)</u> |       |    |     |
|---------------------------------|---|----------------------|-------|----|-----|----------------------|-------|----|-----|
|                                 |   | M                    | SD    | df | p   | M                    | SD    | df | p   |
| RSCA Mastery Scale              | 1 | 47.60                | 9.98  | 33 | .17 | 47.11                | 10.04 | 23 | .28 |
|                                 | 2 | 53.08                | 10.76 |    |     | 52.06                | 10.99 |    |     |
| RSCA Relatedness Scale          | 1 | 44.10                | 9.91  | 33 | .02 | 48.00                | 9.23  | 23 | .50 |
|                                 | 2 | 54.32                | 11.95 |    |     | 51.44                | 13.14 |    |     |
| RSCA Emotional Reactivity Scale | 1 | 49.20                | 8.72  | 33 | .61 | 48.56                | 9.58  | 23 | .62 |
|                                 | 2 | 47.40                | 9.67  |    |     | 46.63                | 8.95  |    |     |

Note: 1=Low Attachment Group (scores 40 and below on PRQ-AS); 2=High Attachment Group (scores above 40 on PRQ-AS)

<sup>a</sup>N = Group 1 (mothers)=10, Group 2 (mothers)=25; Group 1 (fathers)=9, Group 2 (fathers)=16