The Friendships of Adolescents with Attention-Deficit/Hyperactivity Disorder

by

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Abstract

The goal of this dissertation was to examine the friendships of adolescents with ADHD. In Study 1, I utilized quantitative methods to compare adolescents with and without ADHD with regard to friendship patterns at the level of markers (i.e., the presence of friendships, friendship quantity and stability, and characteristics of friends). In Study 2, I use a qualitative approach to investigate the meanings (i.e., subjective experience of friendship) and mechanisms (i.e., processes involved in forming and maintaining friendships) that may enhance or impair friendships of adolescents with ADHD. Moderators such as age and gender were considered in both studies.

The sample for Study 1 comprised 107 adolescents, 13 to 18 years, 59 with ADHD (38 male, 21 female) and 48 comparison adolescents (22 male, 26 female). A subset of nine adolescents with ADHD, 16 to 18 years, participated in Study 2. The Adolescent Friendship Questionnaire (AFQ), Parent Friendship Questionnaire (PFQ), and a semi-structured interview were used. Results indicate that youth with ADHD typically develop at least one close friendship with same-age peers in adolescence. Adolescents with and without ADHD did not differ in the number of friends, the duration of close friendships, or the frequency of contact they have with their close friends. Adolescent girls with ADHD have fewer parent corroborated friendships than male

adolescents with ADHD and teenagers without ADHD. According to parent report, adolescents with ADHD were more likely to have close friends with behaviour problems.

When discussing their friendships, adolescents with ADHD described common experiences of social rejection, isolation, and victimization by peers, as well as problems establishing and maintaining friendships in childhood and early adolescence. They also recalled feeling embarrassed and emotionally distressed, and they perceived their unique challenges as uncontrollable, pervasive, and stigmatizing. Several adolescents with ADHD described becoming resigned to being friendless in adolescence. The transition to secondary school, however, seemed to facilitate friendship development with like-minded peers for adolescents with ADHD in this study. Findings are discussed within the context of the existing literature on the peer relationships of adolescents with ADHD. Clinical implications and future directions are discussed.

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Chapter 1

General Introduction

1 General Introduction

1.1 Aim and Scope of Dissertation

The overarching goal of the research presented in this dissertation was to examine the friendships of adolescents with Attention-Deficit/Hyperactivity Disorder (ADHD). A mixed methods design (Creswell & Plano Clark, 2011) was used to investigate related aspects of their friendships. More specifically, this dissertation examines the friendship characteristics of adolescents with ADHD with regard to the presence and duration of friendships, frequency of interaction with friends, and characteristics of friends (e.g., gender, age, learning problems) and explores the perspectives that adolescents with ADHD have about their friendships.

This dissertation consists of two comprehensive studies and is written in manuscript format. The style in which the manuscripts are presented vary according to the conventions of quantitative and qualitative methodology. In Study 1 (Chapter 2), I examine the friendship characteristics of adolescents with and without ADHD using quantitative methods. The goals of Study 1 were to determine whether they differ with regard to friendship characteristics (e.g., the presence of friendships, friendship quantity and duration, and characteristics of friends). In Study 2 (Chapter 3), I use a qualitative approach to gain in-depth understanding of how adolescents with ADHD experience friendships and investigate the mechanisms that influence their friendships. Pertinent literature reviews and interpretation of findings are discussed within each chapter. Finally, in Chapter 4, I present an integrated discussion of key findings from both studies, including the complexity of studying adolescent friendships, strengths and limitations of the overall research, and clinical implications. Due to the structure of the dissertation described above, some redundancies are inevitable. This chapter provides a brief review of the literature on friendships in childhood and adolescence as well as the social relationships of children and adolescents with Attention-Deficit/Hyperactivity Disorder. Previous research comparing adolescents with and without ADHD in relation to friendships is discussed further in Chapters 2 and 3. This chapter also includes the rationale for conducting a mixed methods study to meet my research goals.

1.2 Friendship

When describing peer relations, it is important to distinguish between general experiences within the larger peer group, namely peer acceptance and rejection, and those that occur at the dyadic level (Bukowski & Hoza, 1989). Friendship refers to a mutual relationship between two individuals while peer status refers to the extent to which individuals are socially accepted by a group of same-age peers (Asher & Coie, 1990; Schneider et al., 1994). Sociometric measures have been extensively used to assess peer status, primarily in terms of acceptance and rejection (Coie, Dodge, & Coppotelli, 1982; Newcomb & Bukowski, 1983; Price & Ladd, 1986). Peer acceptance refers to how much a child is liked by members of the peer group (i.e., liked by most peers and disliked by a few), and peer rejection refers to how much a child is disliked by his or her peer group (i.e., disliked by most peers and liked by a few) (Bukowski et al., 1993; Rubin, Park & Parker, 2006). Social status can also be indexed by placing children and adolescents into five sociometric groups (i.e., popular, average, rejected, neglected, and controversial), based on their pattern of being liked and disliked by their peers (Coie et al., 1982). Peer neglect (i.e., being neither liked nor disliked by many peers) has been associated with increased risk for social anxiety (La Greca, Dandes, Wick, Shaw & Stone, 1988). Peer group acceptance has been associated with academic achievement, social competence, adjustment (Asher, Hymel, & Renshaw, 1984; Kingery, Erdley & Marshall, 2011) while peer rejection has serious implications for poor adjustment, including loneliness, victimization, mental health problems, school truancy and drop-out, antisocial behaviour and delinquency (Bierman, 2004; Newcomb, Bukowski, & Pattee, 1993; Parker & Asher, 1987; Rubin et al., 2006).

Friendship is a voluntary and reciprocal relationship, based on a strong affective tie, that plays an essential role in childhood and adolescent development (Bagwell, Molina, Pelham & Hoza, 2001; Newcomb & Bagwell, 1996; Schneider, Wiener & Murphy, 1994). Unlike other close dyadic relationships (e.g., parent-child), both partners in the friendship dyad generally have equal social power (Bagwell & Schmidt, 2011; Sullivan, 1953). Therefore, friendships provide a unique social context through which children and adolescents learn cooperation, negotiation, and conflict resolution (e.g., Bagwell, Newcomb, & Bukowski, 1998; Berndt & Murphy, 2002; Hartup, 1993). Friendships are based on companionship, closeness, reciprocity, support, intimacy and trust (Newcomb & Bagwell, 1995; Sullivan, 1953) and promote social competence,

psychosocial adjustment, and a positive sense of self-worth (Bagwell et al., 1998; Berndt & Murphy, 2002; Hartup, 1996).

1.2.1 Components of Friendship

Studying friendship is important because it plays a central role in significant developmental changes and influences adjustment (Bagwell & Schmidt, 2011; Hartup, 1995; 1996; Sullivan, 1953). Friendship is not a unitary construct (Mikami, 2010) and can thus be examined in any of the following dimensions: presence of friendship (i.e., friended or friendless, number of friends), quality of friendship (e.g., positive and negative features), personal characteristics (e.g., age, gender, social competence) of the individual and their friends, context of the friendship (e.g., peer status, social networks, school versus community), and nature of the interactions (e.g., frequency, content) between friends (Bagwell & Schmidt, 2011; Bukowski & Adams, 2005; Hartup; 1996).

At the most basic level, it is important to determine whether children and adolescents have friends or are friendless. Although better accepted youth have more opportunities to form friendships (Newcomb, Bukowski, & Bagwell, 1999; Parker & Asher, 1996), popular children can remain friendless and rejected children can develop at least one close mutual friendship (Gest, Graham-Bermann, & Hartup, 2001). Having a close friend might buffer the detrimental effects of negative or stressful experiences (e.g., peer rejection, family conflict, bullying) and reduce loneliness (Bukowski, Hoza & Boivin, 1993; Cardoos & Hinshaw, 2011; Hodges, Boiving, Vitaro, & Bukowski, 1999; Parker & Asher, 1993; Perry, Hodges, & Egan, 2011). Many children and youth, however, are unsuccessful in their attempts to establish and maintain friendships. Between 15% and 20% of children and youth do not have mutual close friends (Parker & Asher, 1993; Parker & Seal, 1996). Those without friends experience more loneliness (Parker & Seal, 1996) and are at increased risk for victimization, depression and anxiety (Hodges et al., 1999; Parker & Asher, 1993). Bagwell and colleagues (1998) found that being friendless in preadolescence contributed to lower self-worth and predicted higher depressive symptomatology in adulthood. In addition, children who do not have a mutual friend are more likely to be victimized (Hodges et al., 1999), and because potential friends may be wary of associating with rejected children, victimized youth are at risk for increases in peer rejection over time (Hodges & Perry, 1999).

When studying friendships, it is not only important to consider whether children and adolescents have friends, but also the nature of those friendships. The personal characteristics of children and youth involved in friendships have implications for their ability to form and maintain friendships, the quality of their relationships, the characteristics of those who they select as friends, and the significance of the friendship for their own development (Bagwell & Schmidt, 2011). Children and youth tend to befriend peers who are similar to them (i.e., selection effects), and their shared characteristics then become magnified within the context of high quality friendships (i.e., socialization effects; e.g., Billy & Udry, 1985; Kandel, 1978; Urberg, 1999). According to the similarity-attraction hypothesis (Byrne & Neelson, 1965), children and adolescents seek out others who are similar to them (e.g., personal characteristics, attitudes, behaviours) when they form friendships. In addition, friends can influence one another, resulting in greater similarity over time (Berndt & Keefe, 1995; Berndt & Murphy, 2002; Newcomb & Bagwell, 1995). A study by Berndt and Keefe (1995) indicated that friends influenced adolescents' disruptive behaviour at school. Students who initially had friends who were high in disruptive behaviour increased their disruptive behaviour while students who initially had friends who were low in disruptive behaviour decreased their disruptive behaviour (Berndt & Keefe, 1995). Newcomb and colleagues (Newcomb et al., 1999) found that interpersonal similarity was an antecedent to friendship formation in middle school and initially dissimilar friends whose relationship continued became more similar in their aggression and competence over the course of the school year.

Friendship quality is conceptualized as the combination of positive (e.g., companionship, support, emotional closeness, validation, and intimacy) and negative (e.g., conflict, rivalry, aggression) features (Berndt, 2002; Berndt & Keefe, 1995; Furman, 1996; Grotzinger & Crick, 1996) of friendship that define the quality of the relationship (Bagwell & Schmidt, 2011). High quality friendships are those in which there are more positive than negative features and are associated with more stable relationships (Bukowski, Hoza, & Bovin, 1994) and might protect children and adolescents from maladjustment (Ladd, Kochenderfer, & Coleman, 1996; Rose & Asher, 2000). Consequently, children and adolescents who have lower quality friendships may have less stable relationships, which in turn will likely reduce their opportunities to experience positive aspects of stable friendships and places them at increased risk for maladjustment (Asher, 1990; Hartup, 1989; Hodges, Bovin, Vitaro, & Bukowski, 1997; Parker & Seal, 1996).

Considering the duration or stability of friendship is important because having stable friendships in childhood and adolescence is associated with better academic competence and socioemotional adjustment (Ladd, 1990; Lad et al., 1996; Poulin & Chan, 2010).

Children and youth who are rejected by peers tend to choose one another as friends because they have few peers who like them and thus tend to associate with each other by default (Parker & Asher, 1993; Vitaro, Tremblay, Kerr, Pagani-Kurts & Bukowski, 1997; Schneider et al., 1994). Although friends generally influence one another in positive ways during childhood and adolescence, and high quality friendships promote adjustment in early adulthood (Bagwell et al., 2005; Berndt, 1996; 1999; Berndt, Hawkins, & Jiao, 1999), negative socialization can occur within the context of high quality friendships. Studies by Dishion and colleagues (e.g., Dishion, Andrews, & Crosby, 1995; Dishion, McCord, & Poulin, 1999; Dishion, Nelson, Winter, & Bullock, 2004) have established that interactions between socially maladjusted friends promote deviant behaviour and predict later antisocial behaviour (i.e., deviancy training). This is because friends influence each other, and their behaviour becomes more similar over time (Dishion et al., 1995). Brendgen and colleagues found that depressed adolescents, ages 11 to 13, who have friends who are depressed themselves experienced steep increases in depressed mood, as compared to those with non-depressed friends (Bregdgen, Lamarche, Wanner, & Vitaro, 2010). Similarly, Rose and colleagues found that co-rumination, extensively discussing and revisiting problems and focussing on negative feelings, is associated with higher occurrence of anxiety and depression within high quality friendships (Rose, 2002; Rose, Carlson, & Waller, 2007). In addition, bullying can occur within close friendships (Crick & Grotpeter, 1996). Victimized youth have trouble forming new friendships (Ellis & Zabatany, 2007) and are more likely to be bullied by their friends (Crick & Grotpeter, 1996; Mishna, 2012). Victimized children may not be able to easily terminate these friendships or separate from the network of social relationships within which the victimization occurs (Besag, 2006; Mishna, 2012). This is concerning because highly conflictual friendships can be damaging (Berndt, 2004), and children who are victimized within their friendships have difficulties with adjustment (Crick & Nelson, 2002). Therefore, it is important to consider both the personal characteristics of children and youth and those who they befriend to better understand the nature of their friendships and the effects of these relationships on their adjustment.

1.2.2 Developmental Factors

Friendships contribute to and are influenced by important developmental changes (e.g., cognitive, social, and emotional) in childhood and adolescence (Bagwell & Schmidt, 2011). Unlike other dyadic relationships (e.g., parent-child), friendships are voluntary and typically more egalitarian in nature. As such, friendships provide a unique context for social development wherein children and adolescents have additional opportunities to acquire and practice essential communication and social interaction skills, including social-perspective taking and conflict resolution, which are likely to be generalized to other relationships, including romantic and work relationships (Bagwell & Schmidt, 2011).

Friendships develop early in life and become more complex as children age. In early childhood, friendships are characterized primarily by companionship and coordinated play activities (Bagwell & Schmidt, 2011). By middle childhood, children become increasingly concerned with avoiding isolation from the peer group and establishing close friendship. Helping, loyalty, and commitment become increasingly important aspects of friendships in middle to late childhood and early adolescence (Bukowski, Newcomb, & Hoza, 1987). From a developmental perspective, adolescence is marked by complex physical, cognitive and social developmental changes. The need for interpersonal intimacy emerges during pre-adolescence (Sullivan, 1953). As originally proposed by Sullivan (1953), intimacy, loyalty, and emotional support become central in adolescent friendships (Berndt, 2004; Furman & Buhrmester, 1992; Hartup, 1993; 1996). During adolescence, friendships become increasingly characterized by equality, reciprocity, and interdependence (De Goede, Branje, & Meeus, 2009; Selman, 1980; Youniss & Smollar, 1985). Empirical findings suggest that self-disclosure and mutual support with friends are common in adolescence and become increasingly important to maintain friendships (e.g., Buhrmester & Furman, 1987; Hartup, 1993). Close friends become a primary source of social support and contribute to adolescent self-concept and well-being (Furman & Buhrmester, 1992). Higher levels of intimacy within adolescent friendships are associated with higher self-worth and fewer internalizing difficulties (Buhrmester, 1990). In adolescence, friendships contribute to and are influenced by important developmental changes, including renegotiating relationships with parents, establishing an identity, and developing romantic relationships (Bagwell & Schmidt, 2011).

1.2.3 Gender Differences in Adolescent Friendships

Empirical studies have established that the friendships of adolescent boys and girls are qualitatively different. Adolescent girls tend to interact in smaller groups and report higher levels of intimacy, support, and equality in their close friendships while adolescent boys spend more time in larger friendship groups with a focus on shared activities and companionship, and friendships with higher levels of competition, conflict, and dominance (De Goede, Branje, & Meeus, 2009; Galambos, 2004; Jenkins, Goodness & Burhmester, 2002; Maccoby, 1990). Cross-sex friendships become more prominent in adolescence (Bukowski, 1993) and contribute to the emergence of romantic relationships (Connolly, Craig, Goldberg & Pepler, 2004; Furman & Wehner, 1994). The increase in cross-sex friendships is more pronounced for females than males, and female adolescents tend to form cross-sex friendships with males who are older and do not attend their school (Poulin & Pedersen, 2007). Between the ages of 16 and 18, about 60% to 75% of adolescents indicate that they have been involved in a romantic relationship (Carver, Joyner, & Udry, 2003; Connolly & McIssac, 2009). High school students report having an average of four romantic relationships that typically last a few months (Connolly & Johnson, 1996; Connolly & McIssac, 2009). Because cross-sex friendships in adolescence contribute to the emergence of romantic interest (Connolly et al., 2004), it is important to consider the presence of friendships with adolescents of the opposite sex.

Although not the focus of the current study, the contribution of same-sex and cross-sex friendships to the emergence of romantic relationships in sexual minority youth (i.e., sexual minority adolescents and young adults) is complex (Ueno, 2005). Research has shown no difference between heterosexual and sexual minority adolescents in the average number of friends; however, sexual minority adolescents (i.e., under 18 years) report more friendship loss, and the peer networks of sexual minority male adolescents tend to be smaller than their heterosexual counterparts (Diamond & Lucas, 2004). Regarding cross-sex friendships, Diamond and Dube (2002) found that sexual minority males, ages 15 to 25, tend to have more female friends than heterosexual males, although sexual minority females do not have more male friends than their heterosexual counterparts. On the other hand, sexual-minority female youth report a higher proportion of same-sex friendships (73%) than heterosexual youth (59% among females and 57% among males) and sexual-minority males (44%). The contribution of cross-sex and

cross-orientation friendships to the emergence of romantic relationships of sexual minority youth requires further study (Ueno 2005).

1.2.4 Contextual Factors Affecting Friendship

Friendships are embedded within larger social systems, such as peer groups, schools, and cultural contexts. While not the focus of this study, cross-cultural studies suggest that similarity among friends and the positive features of friendships (e.g., reciprocity, cooperative and prosocial behaviour) seem to be the norm across countries yet differ in their expression and relative importance, as a function of particular societal values, such as collectivism versus individualism (Bagwell & Schmidt, 2011). Theoretical and empirical studies have established connections between family relationships (e.g. parent-child attachment, parenting styles; parenting behaviour) and children's social competence, including friendships (Ladd & Pettit, 2002; McDowell & Parke, 2009).

Schools are an important context in which children and adolescents form friendships, and having friends in school is important for academic success and social adjustment (Rose & Asher, 2000; Ladd et al., 1996). The classroom environment and teacher practices can influence the peer status of students. For instance, the extent to which teachers accept or criticize students with disruptive behaviour influences the typically strong relationship between disruptive behaviour and peer rejection (e.g., McAuliffe, Hubbard, & Romano, 2009; Mikami, Griggs, Reuland, & Gregory, 2012). Additionally, for children with significant academic or behaviour needs, placement in special education classrooms can result in lower peer acceptance as well as higher peer rejection and victimization (Wiener & Timmermanis, 2012). Lastly, normative school transitions impact changes in friendships because moving to a new school and/or placements in new academic programs may result in establishing new friendships while terminating existing ones (Berndt & Hawkins, 1991; Goodwin, Mrug, Borch, & Cillessen, 2012).

1.2.5 Assessment of Friendship

Assessing children's experiences involves, at the most basic level, determining whether a particular child has a friend. Because friendship is a reciprocal, dyadic relationship, determining the presence of friendship involves asking a child who his or her friends are and then establishing whether the nominated friends also view the child as a friend. Sociometric nominations are a

common method to establish the presence of reciprocal friendships, particularly within classroom, school, and camp settings (e.g., Schneider et al., 1994). Some studies restrict the number of friends a child can nominate (e.g., Parker & Asher, 1993) while others allow unlimited nominations (e.g., Wiener & Schneider, 2002). Summary measures (e.g., mean scores) across many friends give a more complete picture of a child's friendship network (Bagwell & Schmidt, 2011). A variation of sociometric nominations involves using rating scales to determine how much children like peers in their classroom or school (i.e., 1 "do not like at all" to 5 "like very much") (e.g., Berndt & Perry, 1986). Children are usually considered friends if they nominate each other and both children give one another a high rating (e.g., Berndt & Das, 1987). A drawback of using sociometric nominations and rating scales is that children might be classified as friendless because they do not have friends among their classroom or specific research setting (e.g., summer camp), or who are consenting participants in research (Wiener & Schneider, 2002). In addition, there tends to be a positive relationship between popularity and number of close friends, especially when both peer status and friendship are measured using similar methods (Bukowski & Hoza, 1989). In fact, many children who are not widely accepted by their peers are able to maintain close friendships, whereas some highly accepted and well liked children have few or no reciprocal friendships (Parker & Asher, 1987; Ladd, Kochenderfer, & Coleman, 1997; Parker & Asher, 1993). There are subgroups of children and adolescents (e.g., those who are aggressive or who have learning or behaviour disorders) who are more likely to have friends outside their own classroom or school, and some studies have therefore incorporated parents and teachers to corroborate friendship nominations of children (e.g., Marton, Wiener, Rogers, & Moore, 2012; Wiener & Schneider, 2002).

Asking children and adolescents or an adult informant (i.e., teacher or parent) to provide information about their friends (e.g., age, academic competence, behaviour) are two methods commonly used to examine the characteristics of a child's or an adolescent's friends. Friendship quality is usually assessed by asking children and adolescents, or adult informants (e.g., teachers or parents), about their perceptions of the features of a particular friendship, usually with a best friend (Bagwell & Schmidt, 2011). Measurement usually involves rating how frequently particular interactions, such as support, emotional closeness, self-disclosure, conflict, and aggression occur within a friendship or indicating how true descriptions of a given friendship are (e.g., care about each other, tell each other problems, solve arguments quickly) (e.g., Bukowski

et al., 1994; Furhman & Buhrmester, 2009; Grotmeter & Crick, 1996; Keefe & Berndt, 1996; Parker & Asher, 1993). A potential drawback of self-report measures is that they are designed to assess a child's or adolescent's perceptions of his or her relationships with a best friend, without knowing if the best friend perceives the friendship in a similar manner or how closely the youth's perceptions match actual interactions and behaviour with friends (Bagwell & Schmidt, 2011).

To address potential measurement issues related to biased self-perceptions, some researchers have relied on observations in laboratory settings and assessing two friends' perceptions of the same friendship (e.g., Bagwell & Coie, 2004; Brendgen, Markiewicz, Doyle, & Bukowski, 2001); these methods have their own limitations. Observer ratings cannot account for the subjective impact of specific experiences on friendship (Bagwell & Schmidt, 2011). In addition, observing friendship interactions in naturalistic settings becomes increasingly difficult as children age, especially in adolescence when youths spend more time with their peers outside home and school (Larson & Verma, 1999). Lastly, friends tend to agree about some features of their relationship more than others, concordances between friends are generally moderate (Furman & Buhrmester, 2009; Parker & Asher, 1993), and children's perceptions of any given friendship is likely influenced by their own personal biases, including their previous friendship experiences.

1.3 Social Relationships of Children and Adolescents with ADHD

Approximately 5-10% of school-age children in Canada have Attention Deficit/Hyperactivity Disorder (ADHD; Scahill & Schwab-Stone, 2000). About 50% to 80% of youth diagnosed with ADHD in childhood maintain significant symptoms and meet diagnostic criteria for the disorder in adolescence (Barkley, 2015). Children and adolescents with ADHD have significant problems with inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2013; Barkley, 2015). Among children with ADHD, difficulties with attention and impulse control coupled with deficits in social skills (e.g., Murray-Close et al., 2010) and social perspective taking (Marton, Wiener, Rogers, Moore, & Tannock, 2009; Sibley, Evans, & Serpell, 2010) have been associated with poor peer relations (Bagwell, Molina, Pelham, & Hoza, 2001; Hoza, 2005; Mikami & Lorenzi, 2011), fewer and less stable friendships (Bagwell et al., 2001; Hoza et al., 2001; Marton et al., 2012; Normand et al., 2013), and lower quality friendships (Normand, 2011).

When peers are asked to nominate children they like and dislike, children with ADHD are more likely to receive ratings of “liked least” as well as fewer nominations as “liked most” (Gaub & Carlson, 1997; Lahey et al., 1984; Lahey et al., 1994; Mikami & Lorenzi, 2011). A review by Hoza (2007) suggested that between 50% and 80% of children with ADHD could be classified as “rejected” by peers. Numerous studies have established that children with ADHD are overwhelmingly rejected by their peers, largely due to disruptive and intrusive behaviour (e.g., Burhmester, Whalen, Henker, MacDonald, & Hinshaw, 1992; Melnick & Hinshaw, 1996; Landau, Milich, & Diedner, 1998), as well as deficits in social skills (Hoza, 2007; Pfiffner & McBurnett, 1997). This rejection tends to occur quickly and is resistant to change, even with intensive evidence-based treatments that reduce the symptoms of ADHD (Erhardt & Hinshaw, 1994; Hoza, 2007; Mikami, 2010). In addition, children with ADHD and comorbid Oppositional Defiant Disorder (ODD) or Conduct Disorder (CD) have higher rates of peer rejection than children with ADHD alone (Mrug et al., 2009). Children with ADHD are more likely to experience verbal, physical, and relational aggression by peers than comparison children (Cardoos & Hinshaw, 2011; Unnever & Cornell, 2003; Wiener & Mak, 2009). Parents and teachers have reported that children with ADHD engage in bullying themselves more often than comparison children (Unnever & Cornell, 2003; Wiener & Mak, 2009), although parent-reported oppositional behaviour mediates engagement in bullying behaviour (Wiener & Mak, 2009).

Relative to the childhood literature, less is known about the social relationships of adolescents with ADHD. Existing studies have shown that adolescents with ADHD continue to experience more peer rejection (Bagwell et al., 2011) and less peer acceptance (Sibley et al., 2010), as well as fewer close friendships (Bagwell et al., 2011) and more friendships with deviant peers (Marshall et al., 2003) than adolescents without ADHD. In addition, adolescents with ADHD seem to experience more victimization by peers and engage in more bullying than typically developing adolescents (Sciberras et al., 2012; Timmermanis & Wiener, 2011).

1.3.1 Social Impairments of Children and Adolescents with ADHD

Children and adolescents with ADHD have been shown to exhibit social skill deficits (Hinshaw et al., 2006; Murray-Close et al., 2010). Children with ADHD exhibit high rates of intrusive, annoying, and disruptive behaviour during social interactions (Burhmester et al., 1992; Melnick & Hinshaw, 1996; Landau et al., 1998; Whalen & Henker, 1992). These behaviours are not well

tolerated by peers (Mrug et al., 2007) and contribute to peer rejection. Although children with ADHD do not generally differ from comparison children in their knowledge of prosocial behaviour in controlled environments, they are often unable to regulate their emotions and behaviour during actual peer interactions (McQuade & Hoza, 2015; Mikami, Huang-Pollock, Piffner, McBurnett, & Hangai, 2007). Furthermore, children with ADHD, who may present as more emotionally intense, engage in a higher frequency of social interactions than same age peers, which may create more opportunities for negative peer interactions (Whalen & Henker, 1985; 1991). Children with ADHD, particularly those who have comorbid ODD or CD symptoms, are more likely to engage in aggressive behaviour (Abikoff et al., 2002; Hodgins, Cole, & Boldizar, 2002) in their interactions with peers, which further impairs their social relationships. Co-existing mental health problems, such as anxiety, depression, or conduct problems, might exacerbate or attenuate the social competence and friendship development of children and youth with ADHD (see Becker et al., 2012 for review).

Empirical studies have established a relationship between theory of mind, social perspective taking, and social behaviour (Cutting & Dunn, 2006; Jenkins & Astington, 2000; Selman, 1980). Specifically, the ability to understand another's perspective and to coordinate it with one's perspective is positively associated with prosocial behaviour and positive social relationships (Selman, 1980; Schultz, Yeats, & Selman, 1989). Marton et al. (2009) found that children with ADHD exhibited lower levels of social perspective taking when defining social problems, identifying feelings, generating solutions to interpersonal problems, and evaluating social outcomes than typically developing children. Marton et al. (2009) also found an association between children's social perspective taking and the length of their friendships. In an adolescent sample, Timmermanis (2015) found that adolescents with ADHD had less developed overall social perspective taking skills, generated fewer solutions to hypothetical scenarios involving social conflict, and demonstrated poorer social skills in the domains of self-reported communication, cooperation, and responsibility as well as parent-reported communication, cooperation, engagement, self-control, empathy, and responsibility than typically developing adolescents. In addition, social perspective taking and ADHD status made independent contributions to the prediction of self-reported adolescent cooperation, assertion, empathy and responsibility skills.

When examining self-perceptions of social competence, children with ADHD tend to overestimate their competence on self-report measures relative to teacher and parent ratings (Hoza et al., 2004), particularly those with the combined or hyperactive/impulsive presentations (Owens & Hoza, 2003). This “positive illusory bias” (Hoza, Pelham, Dobbs, Owens, & Pillow, 2002) or “self-enhancement bias” (Colomer, Martinussen, & Wiener, 2016) might result from self-protective motivations (Diener & Milich, 1997; Emeh & Mikami, 2014; Ohan & Johnston, 2002) or impairments in self-monitoring (McQuade, Tomb, Hoza, Waschbusch, Hurt, & Vaughn, 2011; Owens, Goldfine, Evangelista, Hoza, & Kaiser, 2007). Hoza, Vaughn, Waschbusch, Murray-Close, and McCabe (2012) suggest that children with ADHD might have specific difficulties reporting on their social competence, as compared to other domains (e.g., academic performance and behaviour). This is problematic because children with ADHD who overestimate their social competence display significantly less prosocial behaviour in dyadic social interaction tasks (Linnea, Hoza, Tomb, & Kaiser, 2012), exhibit further declines in peer liking and no improvement in friendship formation (Mikami, Calhoun, & Abikoff, 2010), and are at increased risk for aggression and conduct problems (McQuade et al., 2014). Given that accurate self-perceptions may be necessary for individuals to learn from prior mistakes and adjust their behaviour (Colvin & Block, 1994), it is not surprising that children with ADHD who demonstrate positive bias regarding their social competence show greater impairments in their social functioning. A recent longitudinal study by Hoza and colleagues (2010) demonstrated that the magnitude of positive bias or self-enhancement declines as children with ADHD progress into adolescence.

1.3.2 Friendships of Children with ADHD

Some studies have indicated that 40-56% of children with ADHD do not have friends or lose them over time (Hoza, Mrug et al., 2005; Mrug et al., 2012). Other research has found that children with ADHD did not differ from comparison children in the number of friends they nominated (Marton, Wiener, Rogers, & Moore, 2012) but these friendships were less likely to be corroborated by parents and teachers. Both girls and boys with ADHD are nearly twice as likely as typically developing youth to have no friends in their classrooms (Blachman & Hinshaw, 2002; Hoza et al., 2005). This is concerning because children who struggle to establish friendships are at an increased risk of being victimized (Hodges et al., 1999) and of engaging in deviant or risky behaviours (Vitaro et al., 1997). Children with ADHD also have friendships that

are less stable and of lower quality than those of children without ADHD (Marton et al., 2012; Normand, 2011; Normand et al., 2013). In addition, children with ADHD are more likely to have friends with behaviour problems (Marton et al., 2012; Normand, 2011), which further increases their risk for additional difficulties because having friends who exhibit problem behaviour can have negative influences on adjustment (Berndt, 1999; Keefe & Berndt, 2006). Lastly, children with ADHD are at an increased risk for being victims and perpetrators of bullying (Wiener & Mak, 2009).

1.3.3 Friendships of Adolescents with ADHD

In comparison to childhood ADHD, the research examining the peer relations of adolescents with ADHD is limited. Parent and teacher ratings of adolescents with ADHD suggest continuing problems with social skills, peer relationships, and friendships (Bagwell et al., 2001; Fischer et al., 1990). In addition, adolescents with ADHD exhibit general deficits in social problem-solving and perspective taking (Sibley et al., 2010; Timmermanis, 2015), are less likely to be accepted (Sibley et al., 2010) and more likely to be rejected (Bagwell et al., 2001) by peers, and experience more peer victimization (Timmermanis & Wiener, 2011) than adolescents without ADHD. Adolescents with ADHD are also more likely to have friends with behavior problems (Bagwell et al., 2001) and often associate with deviant peer groups (Becker, Luebke, & Langberg, 2012; Vitaro et al., 1997), which increases their risk for substance use (Marshall, Molina, & Pelham, 2003) and long-term adjustment difficulties (Keefe & Berndt, 2006). A qualitative study by Wiener and Daniels (2016) found that adolescents with ADHD had unstable friendships, mainly with other teens with learning and behaviour problems, and that adolescents with ADHD generally did not disclose feelings or discussed personal issues with their friends. Results of this study support the notion that adolescents with ADHD have less stable and lower quality friendships. Lastly, Rokeach and Wiener (in press) found that adolescents with ADHD have more difficulties in their relationships with romantic partners than adolescents without ADHD. Specifically, adolescent girls with ADHD report having romantic relationships of shorter duration than comparison adolescents, and male adolescents with ADHD report their age of first sexual intercourse to be nearly two years earlier than adolescents without ADHD. In addition, adolescents with ADHD reported almost double the number of lifetime sexual partners than comparison adolescents.

1.3.4 Social Relationships of Females with ADHD

The existing literature on children and adolescents with ADHD has primarily focused on males (Barkley, 2015; Mikami & Hinshaw, 2008). Nonetheless, existing studies suggest that girls with ADHD seem to have at least as many, if not more, difficulties in peer relationships than boys with ADHD (Gaub & Carlson, 1997; Mikami & Hinshaw, 2003; Mikami et al., 2013). Girls with ADHD experience more peer conflict and rejection (Ohan & Johnston, 2007) than typically developing girls. Moreover, there seem to be increased risks for females with ADHD who experience peer rejection and comorbid conduct problems. In a sample of girls, ADHD and childhood peer rejection made independent contributions to predicting adolescent externalizing and internalizing problems, eating disorders, and poor academic achievement (Mikami & Hinshaw, 2006; Mikami et al., 2008). Mikami and Lorenzi (2011) found that girls with ADHD who had comorbid conduct problems were more likely to have peer difficulties than boys with ADHD who had similar levels of conduct problems. Girls with ADHD seem to be equally impaired in their friendships as their male counterparts (Hoza et al., 2005). Blachman and Hinshaw (2002) found more friendship difficulties (i.e., fewer and less stable friendships) in girls with ADHD than typically developing girls, and these difficulties persist into adolescence (Hinshaw, Owens, Sami & Fargeon, 2006; Owens, Hinshaw, Lee, & Lahey, 2009).

Studies have proposed that symptoms of ADHD might interfere with the friendships of females with ADHD to a larger extent than their male counterparts due to higher expectations for verbal social conversations, reciprocity, and emotional intimacy in female friendships (Mikami & Hinshaw, 2003; 2008). In addition, the “gender paradox” (Eme, 1992) suggests that the less-prevalent sex with a given disorder experiences greater impairment than the more prevalent sex. In the case of ADHD, females would exhibit more impairment in their social relationships because their symptoms of ADHD might be perceived as more deviant relative to males with ADHD.

1.4 Summary and Goals of Research

Having positive peer relationships and supportive friendships contributes to psychological well-being and positive adjustment (e.g., Bagwell et al., 1998; Berndt & Murphy, 2002). Existing research on adolescents with ADHD suggests that they have ongoing challenges with peer relations and friendships (Bagwell et al., 2001; Marshal et al., 2003; Sibley et al., 2010;

Timmermanis, 2015). The difficulties that adolescents with ADHD seem to experience in developing positive relationships with peers are concerning and warrant further study. As such, the overall purpose of this dissertation is to examine the friendships of adolescents with ADHD. Because friendships play a central role in important developmental changes (e.g., establishing an identity) and influence adjustment in adulthood, it is important to examine whether friendship difficulties of children with ADHD persist into adolescence.

Bukowski and Adams (2005) suggest that comprehensive study of friendships should examine markers, moderators, mediators, meanings and mechanisms. Markers refer to variables that represent a larger phenomenon (e.g., presence of friendship). Moderators are variables that increase or decrease the strengths of an outcome variable (e.g., having a supportive friend may weaken the effects of harsh parenting on victimization). Mediators are variables that are correlated with predictor and outcome variables (e.g., antisocial adolescents tend to choose friends who engage in similar behaviours and have parents who do not monitor their children closely, resulting in further socialization of antisocial behaviour). Mechanisms refer to the processes that characterize a friendship relationship and presumably account for the effects that have been attributed to friendship (e.g., deviancy training, co-rumination) (Dishion et al., 1999; Rose, 2002). Meanings refer to the subjective experience of friendship.

The present research has two objectives: 1) to compare adolescents with and without ADHD with regard to friendship patterns at the level of markers (i.e., the presence of friendships, friendship quantity and stability, and characteristics of friends) and 2) to investigate the meanings (i.e., subjective experience of friendship) and mechanisms (i.e., processes involved in forming and maintaining friendships) that may enhance or impair friendships of adolescents with ADHD. Moderators such as age and gender were considered in both studies. Although quality of friendship is important in the study of friendship, it was not directly examined in Study 1, as this is the focus of a dissertation of another doctoral student. Aspects of friendship quality are addressed within Study 2.

1.5 Rationale for Mixed Methods Design

My initial program of research focused exclusively on quantitative methodology. I initially aimed to compare the friendship characteristics (e.g., presence and duration of friendship, individual and friend characteristics) of adolescents with and without ADHD and explore the

potential mediating or moderating effect of individual characteristics (e.g., ADHD symptoms, anxiety, depression, conduct problems, social perspective taking) on friendship. As described in Study 1 (Chapter 2), results of my analyses on friendship characteristics indicated that adolescents with and without ADHD did not differ in the number of friends they reported to have, the duration of their friendships, or the amount of contact they have with their friends. While promising, these findings were inconsistent with the significant friendship difficulties documented in children with ADHD. Adolescent girls with ADHD, however, had fewer parent corroborated friendships than male adolescents with ADHD and comparison adolescents, and a subset of these teens sought friendships with strangers online. As a result of these findings, the focus of my program of research changed, and I became interested in examining whether and how the friendships of adolescents with ADHD might differ from their childhood counterparts. Thus, I designed a qualitative study to help me explain and interpret the results of Study 1 and, to meet the research goals of this dissertation. My program of study became a mixed methods study using a sequential mixed methods design (Creswell & Plano Clark, 2011).

Mixed methods is a research approach that typically involves the use of both quantitative and qualitative methodologies, and the mixing or integration of findings from both approaches to address a research question (Creswell, 2009; Creswell & Plano Clark, 2007; Tashakkori & Teddlie, 2010). Mixed methods research involves the integration of findings from both quantitative and qualitative approaches for broader interpretation (Hayes & Singh, 2012). There has been a growth of interest in mixed methods research in the social sciences (Creswell & Plano Clark, 2010; Onwuegbuzie, 2012). Furthermore, a pragmatic perspective to research has been proposed (e.g., Caracelli & Greene, 1997; Onwuegbuzie, 2012; Tashakkori & Teddlie, 2010) to move beyond debates about the superiority of quantitative or qualitative methodology (i.e., paradigm wars). From a pragmatic perspective, the designs and methods for collecting and analyzing data are selected based on the stated research goals, and guided by a researcher's personal values (Creswell, 2009; Plano Clark & Baddie, 2010). Pragmatic mixed methods proponents contend that quantitative and qualitative approaches can and should be mixed or combined to gain a better understanding of our complex social world (Onwuegbuzie, 2012).

Consistent with a pragmatic perspective, I used mixed methods (Creswell & Plano Clark, 2011) and implemented a sequential explanatory design (Figure 1.1) to examine the friendship

characteristics of adolescents with ADHD and explore mechanisms that influence their friendships. The implementation was QUAN→ qual in this two-phase study.

Figure 1.1: Sequential Explanatory Design

Mixed methods researchers have paid considerable attention to when and how the data are mixed or integrated (Creswell & Plano Clark, 2011). Mixing of quantitative and qualitative data can occur at several stages: data collection, data analysis, interpretation, or at all three phases (Creswell, 2009). Although integration might involve data transformation of qualitative data to quantitative data (Creswell & Plano Clark, 2011), I did not quantify qualitative findings because I am exploring different aspects of friendship, namely characteristics and mechanisms of friendship. Mixed method integration can also occur at the discussion stage (Tashakkori & Teddlie, 2010). For this dissertation, the qualitative findings (Study 2) are used to explain and interpret the results of my quantitative study (Study 1), and integration of findings occurs in the final discussion (Chapter 4).

This research study contributes to our understanding about the developmental significance of friendship, particularly for children and youth with ADHD who tend to experience chronic difficulties in peer relations and friendship.

Chapter 2

The Friendship Characteristics of Adolescents with Attention-Deficit/Hyperactivity Disorder

The goal of this study was to determine whether adolescents with and without Attention-Deficit/Hyperactivity Disorder (ADHD) differ with regard to friendship characteristics. The sample comprised 107 adolescents, ages 13 to 18 years; 59 with ADHD (38 male, 21 female) and 48 comparison adolescents (22 male, 26 female). Adolescents with and without ADHD did not differ in the number of friends they nominated. Females with ADHD, however, had fewer parent corroborated friendships than males with ADHD and adolescents without ADHD. The duration of close friendships and frequency of contact adolescents have with their close friends were similar between groups. Although adolescents with and without ADHD were equally likely to have cross-sex friendships, those with ADHD were more likely to have friends who were younger or older by two or more years. According to parent report, adolescents with ADHD were more likely to have close friends with behaviour problems than comparison adolescents. Clinical implications of these findings are discussed.

2 The Friendship Characteristics of Adolescents with Attention-Deficit/Hyperactivity Disorder

2.1 Introduction

2.1.1 Friendships

The overall purpose of this study was to investigate the characteristics of close friendships of adolescents with Attention Deficit/Hyperactivity Disorder (ADHD). Friendship is a reciprocal, co-constructed relationship that plays an essential role in childhood and adolescent development (Bagwell, Molina, Pelham & Hoza, 2001; Wiener & Murphy, 1994). According to Sullivan (1953), friendships are unique relationships in which both partners in the dyad typically have equal power and that are based on closeness, self-disclosure, reciprocity, similarity, and support. Friendships also provide a unique context through which children and adolescents learn cooperation, negotiation, and conflict resolution (e.g., Bagwell, Newcomb, & Bukowski, 1998; Berndt & Murphy, 2002; Hartup, 1993; Newcomb & Bagwell, 1995; Sullivan, 1953). Many studies (e.g., Bagwell & Schmidt, 2011; Rubin, Bukowski, & Parker, 1998) suggest that

friendships promote social competence, psychosocial adjustment, and a positive sense of self-worth. In addition, having a close friend may buffer the detrimental effects of negative or stressful experiences such as peer rejection or poor family relationships and reduce loneliness (Bukowski, Hoza & Boivin, 1993; Parker & Asher, 1993). Many children and youth, however, are unsuccessful in their attempts to establish and maintain friendships. Between 15% and 20% of children and youth do not have mutual close friends (Parker & Asher, 1993; Parker & Seal, 1996). Those without friends experience more loneliness (Parker & Asher, 1993) and are at increased risk for victimization, depression and anxiety (Hodges, Boivin, Vitaro, & Bukowski, 1999). Bagwell and colleagues (1998) found that being friendless in preadolescence contributed to lower self-worth and predicted higher depressive symptomatology in adulthood.

In adolescence, friendships become more supportive and intimate than in childhood (Buhrmester, 1990; Hartup, 1996; Selman, 1980). Close friends become a primary source of social support and contribute to adolescent self-concept and well-being (Furman & Buhrmester, 1992). Cross-sex friendships become more prominent (Bukowski, 1993) and contribute to the emergence of romantic relationships (Connolly, Craig, Goldberg & Pepler, 2004; Furman & Wehner, 1994). Between the ages of 16 and 18, about 60% to 75% of adolescents endorse having had a romantic relationship (Carver, Joyner, & Udry, 2003; Connolly & McIssac, 2009). High school students report having an average of four romantic relationships that typically last a few months (Connolly & Johnson, 1996; Connolly & McIssac, 2009). Because cross-sex friendships in adolescence contribute to the emergence of romantic interest (Connolly et al., 2004), it is important to consider the presence of friendships with adolescents of the opposite sex.

When studying friendships, it is not only important to consider whether children and adolescents have friends, but also the nature of those friendships. Children and youth tend to befriend peers who are similar to them, and shared characteristics then become magnified within the context of high quality friendships (Berndt, 1999). Children who are rejected by peers tend to choose one another as friends (Vitaro, Tremblay, Kerr, Pagani-Kurts & Bukowski, 1997). Although friends generally influence one another in positive ways and high quality friendships promote adjustment in early adulthood (Bagwell et al., 2005; Berndt, 1996; 1999; Berndt, Hawkins, & Jiao, 1999), negative socialization also occurs within the context of high quality friendships. Studies by Dishion and colleagues (e.g., Dishion, Andrews, & Crosby, 1995; Dishion, McCord, & Poulin, 1999; Dishion, Nelson, Winter, & Bullock, 2004) have established that interactions

between socially maladjusted friends promote deviant behaviour and predict later antisocial behaviour (i.e., deviancy training). This is because friends influence each other, and their behaviour becomes more similar over time (Dishion et al., 1995). Rose and colleagues (Rose, 2002; Rose, Carlson, & Waller, 2007) also found that co-rumination, extensively discussing and revisiting problems and focussing on negative feelings, is associated with higher occurrence of anxiety and depression within high quality friendships. In addition, bullying can occur within close friendships (Crick & Grotpeter, 1996; Mishna, 2012), and highly conflictual friendships can be damaging (Berndt, 2004). Therefore, it is important to consider who children and adolescents befriend to understand how friendship influences adjustment.

2.1.2 Friendships and ADHD

Approximately 5-10% of school-age children in Canada have a diagnosis of ADHD (Scahill & Schwab-Stone, 2000). About 50% to 80% of youth diagnosed with ADHD in childhood maintain significant symptoms and meet diagnostic criteria for the disorder in adolescence (Barkley, 2015; Hoza, 2007). Children and adolescents with ADHD have significant problems with inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2013; Barkley, 2015). Individuals with ADHD often have underdeveloped social skills (e.g., Hinshaw, Owens, Sami, & Fargeon, 2006; Murray-Close et al., 2010). This places children and youth with ADHD at increased risk for poor peer relations, including peer rejection (Bagwell et al., 2001; Hoza, 2007), fewer and less stable friendships (Bagwell et al., 2001; Hoza et al., 2005; Marton et al., 2012; Normand et al., 2013), and lower quality friendships (Normand, 2011). A high proportion (40-56%) of children with ADHD do not have friends or lose them over time (Hoza et al., 2005; Mrug et al., 2012; Normand, 2013). Marton, Wiener, Rogers, and Moore (2012) found that children with ADHD did not differ from comparison children in the number of friends they nominated, but these friendships were less likely to be corroborated by parents and teachers. Both girls and boys with ADHD are nearly twice as likely as typically developing youth to have no friends in their classrooms (Blachman & Hinshaw, 2002; Hoza et al., 2005). This is concerning because children who struggle to establish friendships are at an increased risk of being victimized and engaging in deviant or risky behaviours (Vitaro et al., 1997). Children with ADHD are more likely to have friends with learning and behaviour problems (Marton et al., 2012; Normand, 2011). This further increases their risk for additional difficulties because having

friends who exhibit problem behaviour can have negative influences on adjustment (Berndt, 1999; Keefe & Berndt, 2006).

The few studies that have examined social competence and peer relationships of adolescents with ADHD suggest ongoing problems with social skills, peer relationships, and friendships (Bagwell, Molina, Pelham & Hoza, 2001; Fischer et al., 1990; Timmermanis, 2015). Adolescents with ADHD report that their friends have more substance abuse problems and engage in fewer prosocial activities than friends of adolescents without ADHD (Marshall, Molina & Pelham, 2003). In a qualitative study by Wiener and Daniels (2016), adolescents with ADHD reported less stable friendships, mainly with other teens with learning and behaviour problems. Wiener and Daniels also reported that these teens generally did not disclose feelings and personal issues with their friends, which supports the notion that the challenges with developing high quality close friendships documented in research with children with ADHD may persist into adolescence.

2.1.3 Objectives and Hypotheses

The purpose of this study was to explore the friendship characteristics of adolescents with ADHD with regard to the presence and duration of friendships, frequency of interaction with friends, and characteristics of friends (e.g., gender, age, learning problems). The study was guided by four objectives. The first objective was to investigate whether adolescents with ADHD had fewer nominated and parent corroborated friends than adolescents without ADHD. Based on previous research on youth with ADHD (Bagwell et al., 2011; Marton et al., 2012), it was expected that adolescents with ADHD would have fewer parent corroborated friendships. The second objective was to investigate whether adolescents with ADHD differed from adolescents without ADHD regarding the length of their close friendships and amount of contact they have with friends online, by phone or text, and in person outside of school. Given research findings on children with ADHD (Marton et al., 2012; Normand, 2011), it was expected that adolescents with ADHD would have friendships of shorter duration and reduced contact with their friends. The third objective was to examine whether adolescents with ADHD had more friends with learning or behaviour problems than adolescents without ADHD. It was predicted that, consistent with studies of children and youth with ADHD (Marton et al., 2012; Marshall, Molina, & Pelham, 2003; Normand, 2011), adolescents with ADHD would have more friends with learning and

behavioural problems than adolescents without ADHD. The final objective was to explore the characteristics of best friendships for adolescents with and without ADHD because having one close, stable friendship may buffer the detrimental effects of negative experiences, such as peer rejection, and reduce loneliness (Bukowski, Hoza & Boivin, 1993; Parker & Asher, 1993).

2.2 Methodology

2.2.1 Participants

A sample of adolescents and their caregivers were invited to participate in the present study as part of a larger research project. The original sample for this study comprised 123 adolescents, ages 13 to 18 (67 ADHD; 56 comparison). Participants were in grades 7 to 12 and had average intellectual ability ($IQ \geq 85$) as assessed by the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999). Adolescents with diagnoses of Learning Disabilities, externalizing disorders (i.e., Oppositional Defiant Disorder), and internalizing or mood disorders (i.e., Anxiety, Depression) were included given the high occurrence of comorbid disorders within the ADHD population. Adolescents with Autism Spectrum Disorders and Intellectual Disabilities were excluded. One participant withdrew from the study, and others were excluded due to below average intellectual functioning ($n = 3$) or because they had started post-secondary education when the friendship data were collected (ADHD $n = 2$; Comparison $n = 6$).

All participants included in the ADHD sample had previously received an ADHD diagnosis from a psychologist or physician based on DSM-IV criteria. To confirm ADHD symptoms at the time of the study, the DSM-IV Inattentive and DSM-IV Hyperactive/Impulsive scales of the Parent, Teacher, and Self-Report of the Conners – 3rd Edition (Conners, 2008) were used. Participants were classified as having ADHD in one of two ways: a) participants had at least one parent rating within the clinically significant range ($T \geq 70$) on the DSM-IV Inattentive or DSM-IV Hyperactive/Impulsive scales or b) participants had at least one borderline rating ($T \geq 65$) by a parent and a second rater (teacher or self-report). Typically functioning adolescents had a) parent ratings in the average range ($T \leq 60$) or b) all scores below the borderline range ($T \leq 64$) on both teacher and parent ratings. After employing the outlined criteria, 5 participants were excluded due to borderline or clinically significant ADHD ratings in comparison participants ($n = 2$), or average ADHD symptom ratings in participants with a previous diagnosis of ADHD ($n = 3$).

The final sample comprised 107 adolescents (60 male, 47 female), including 23 in grades 7 to 8, 39 in grades 9 to 10 and 45 in grades 11 to 12. The ADHD group consisted of 59 adolescents (38 male, 21 female) and the comparison sample consisted of 48 adolescents (22 male, 26 female). Within the ADHD group, 42 (71%) were taking medication regularly to manage their ADHD symptoms. However, on the day of data collection, these participants were asked not to take their medication. In addition, 40 (68%) had at least one comorbid diagnosis by a mental health professional. Thirty-six adolescents were diagnosed with a comorbid learning disability, two with oppositional defiant disorder, one with conduct disorder, seven with an anxiety disorder, and two with depression. Within the comparison group, seven (15%) of the adolescents had been diagnosed with a learning or mental health disorder. Five adolescents were diagnosed with a learning disability, one with oppositional defiant disorder, and one with a comorbid learning disability and anxiety disorder.

As shown in Table 2.1, there were no significant age differences between adolescents with and without ADHD. There were, however, a higher proportion of males in the ADHD group ($\chi^2(1, N = 107) = 3.71, p = .054$). There were no significant differences in parents' marital status ($\chi^2(1, N = 107) = 2.196, p = .138$), or languages spoken in the home (English or other), ($\chi^2(1, N = 107) = .805, p = .37$). Parental education (measured by the highest level of parental educational attainment in the household) did not differ between families of adolescents with and without ADHD. Adolescents with and without ADHD did not significantly differ in IQ. According to parent and teacher report, adolescents with ADHD scored significantly higher on the Conners-3 DSM-IV Inattentive and DSM-IV Hyperactive/Impulsive subscales than did adolescents without ADHD. Parent and teacher ratings also indicated that adolescents with ADHD scored significantly higher on the Peer Relations problems subscale.

2.2.2 Measures

2.2.2.1 Adolescent and Parent Friendship Questionnaires

The *Adolescent Friendship Questionnaire* (AFQ) and the *Parent Friendship Questionnaire* (PFQ) were adapted by Wiener and Schneider (2002; Appendix A) to assess the number of adolescent nominated and parent corroborated friends, and the duration and amount of contact in adolescent-nominated friendships. In an individual interview, adolescent participants were asked to list the first names and last initial of their "close friends" at school and outside of school and

to answer specific questions about these friends (e.g., gender, age, length of close friendship, and frequency of interactions). Lastly, adolescents were asked to indicate their “single best friend” and “single best friend at school.” Parents were asked parallel questions, in addition to questions about whether each friend had learning and/or behaviour difficulties. The frequency of online and telephone contact between friends was assessed on a six-point Likert scale ranging from 1 (Almost every day) to 6 (Never). The frequency of direct contact outside of school was assessed on a five-point scale ranging from 1 (Once a week or more) to 5 (Never).

Individuals whom adolescents listed on the AFQ are considered *adolescent-nominated* friends and individuals listed on the PFQ are considered *parent-nominated friends*. Those individuals who were listed on both the adolescent and parent questionnaires are considered *corroborated friends*. Using a similar procedure, Wiener and Schneider (2002) established that parent corroboration of children’s friendships can serve as a valid measure of mutual relationships when access to reciprocal nominations from nominated friends is restricted.

2.2.2.2 Wechsler Abbreviated Scale of Intelligence

The Vocabulary and Matrix Reasoning subtests of the *Wechsler Abbreviated Scale of Intelligence* (WASI; Wechsler, 1999) were administered in this study to obtain an estimate of the adolescents’ intellectual functioning. This abbreviated IQ scale demonstrates good internal consistency and test-retest reliability. The correlation with the Full Scale IQ on the WISC-III is .81.

2.2.2.3 Conners Rating Scale – Third Edition

The *Conners Rating Scale, Third Edition*, (Conners, 2008; Parent Conners 3-P, Teacher Conners 3-T, and Self-Report Conners 3-SR) was used to confirm ADHD symptoms of inattention and hyperactivity/impulsivity as well as to assess peer relation problems. Parents and teachers rated adolescents’ behaviour on a four-point scale ranging from 0 (Not true at all/Never, Seldom) to 3 (Very much true/Very Often, Very Frequently). Adolescents rated their own behaviour using a similar four-point scale. The DSM-IV Inattentive, DSM-IV Hyperactive-Impulsive, and Peer Relations subscales used in this study have strong internal consistency (Parent: .93, .92, .85; Teacher: .94, .95, .92; Self-Report: .89, .83) and good test-retest reliability (Parent: .84, .89, .78;

Teacher: .85, .84, .87; Self-Report: .71, .72). Parents, teachers and adolescents were asked to think of the individual when they were not on medication.

2.2.3 Procedure

The present study was conducted as part of a larger research study on peer and family relationships of adolescents with ADHD approved by the Research Ethics Board of the University of Toronto. Only procedural aspects relevant to the present study are described. Participants were recruited through advertisement in newspapers and websites, physicians' and psychologists' offices and children's mental health centres. In addition, participants in previous studies who were between 13 and 18 years of age and had provided consent for future research studies were also contacted.

Parents of participating adolescents were contacted by phone and given detailed information about the study. They provided demographic information about the family background, adolescents' diagnosis and completed the Conners 3-P as a verification of ADHD diagnosis. If adolescents met eligibility criteria, a package was mailed to the family including consent letters and forms (both parent and adolescent versions) explaining the purpose, procedures, potential risks, and benefits associated with the study. Adolescent participants provided written assent and their parents provided written consent for participation in the study (Appendix B). Parents were asked to complete a variety of measures and provided consent for the Conners 3-T to be sent to the adolescents' school. The adolescent measures were administered in an individual testing session by graduate students in school and clinical psychology. Demographic information pertaining to the adolescents' age, diagnoses, medication status, school performance, family composition and language use, and parental education was obtained from a background questionnaire completed by parents (Appendix B).

Adolescent participants were given the option of receiving \$30.00 in cash or counting their participation toward community service hours required by their schools. In addition, adolescents and their parents were given an educational report describing the adolescents' cognitive, academic, behaviour and social-emotional functioning and providing recommendations for home and school.

2.2.4 Data Analyses

Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS), version 23. The data were examined for normality and homogeneity of variance. Because assumptions were violated for several variables, bootstrapping was used to increase the robustness of findings across statistical analyses. Outliers were not adjusted as they were deemed to be valid representations of the adolescents' reported friendship characteristics. Univariate and multivariate analyses of variance were used. To conduct these analyses, Greene and Salkind (2013) recommend having a sample size of 15 cases per group to yield accurate p values. This requirement was met in all analyses of variance conducted. However, power analyses indicated that in order to detect medium effect sizes ($f = .25$) in this study, a total sample size of 269 would be needed. In order to detect large effect sizes ($f = .40$), a total sample of 111 would be needed. Therefore, the total sample used in this study ($n = 107$) allows for the detection of large effect sizes but not moderate effects. Descriptive and categorical analyses were conducted when statistical analyses were not possible.

In the present study, 13% of parents (ADHD $n = 6$; Comparison $n = 7$) did not complete the PFQ. In addition, 14% of participants (ADHD $n = 9$; Comparison $n = 4$) had no parent-corroborated friends. As such, 75% of adolescent participants (ADHD $n = 44$; Comparison $n = 37$) had from 1 to 5 friendships corroborated by parents (53.8%, 1 corroborated friendship; 26.3%, 2 corroborated friendships; 11.3%, 3 corroborated friendships; 5%, 4 corroborated friendships; 3.8%, 5 corroborated friendships). Analyses were conducted separately on adolescent nominated and parent corroborated friendships using information obtained from the adolescent and parent versions of the Friendship Questionnaire. As findings regarding parent corroborated friendships were obtained from a smaller sample ($n = 94$), with reduced statistical power, only results pertaining to the characteristics of adolescent nominated friendships are reported. Parent report of close friends with learning or behaviour difficulties, based on categorical analyses, are reported because this information was collected only in the parent questionnaire.

The first set of analyses explored whether adolescents with and without ADHD differed in number of friendships. The *presence* of friendships was obtained by calculating the number of adolescent-nominated friends and corroborated friends. Separate two-by-two analyses of

variance (ANOVAs) were used to examine ADHD status and gender differences in adolescent nominated and parent corroborated friendships.

The second set of analyses examined group and gender differences in the duration of adolescent nominated close friendships. The *duration* of friendships was calculated by summing the length of friendships across all friends listed and dividing by the number of friends listed. To address age effects, the average length of friendship score was then divided by the age of the adolescent, in years, to obtain a score that reflected the proportion of the adolescents' age that they have maintained friendships. A two-by-two ANOVA was used to examine ADHD status and gender differences in adolescent-reported duration of friendships.

The third set of analyses investigated group and gender differences in the amount of online, phone/text, and direct contact with friends. Contact with friends was calculated by reverse coding the friendship interview, so that higher scores reflected more contact. Then, the mean of contact across all friendships was calculated by summing all contact among adolescent nominated friends and dividing it by the number of nominated friends. The mean of contact was used to account for variations in the number of friends nominated by each adolescent. To control for multicollinearity, two-way multiple analysis of variance (MANOVA) was used to examine ADHD status and gender differences in amount of online, text or telephone, and direct contact with adolescent nominated friends as dependent variables, and ADHD status and gender as fixed factors.

The fourth set of analyses involved examining group and gender differences on the identity of friends (same/opposite gender, age, learning or behaviour problems). Adolescents provided information regarding gender and age for each individual listed as a friend. Categories were created for same-sex friendships, cross sex-friendships, same-age and age-discrepant friends. Adolescents were considered to have cross-sex friendships if they had a friend of the opposite sex. Age-discrepant friends were defined as those who were older or younger than the participant by more than 2 years. Parent corroborated friends rated as having learning or behaviour problems were also categorized. Chi-square analyses were initially conducted to examine group and gender effects on the likelihood of having cross-sex and age-discrepant friendships, as well as having friends with behaviour or learning problems; however, empty cells were present and did

not allow for full statistical comparison. Consequently, chi-square analyses were used to examine ADHD effects only for these variables.

The last set of analyses explored characteristics of best friendships for adolescents with and without ADHD. Two-by-two ANOVAs were used to examine ADHD status and gender differences in adolescent-reported duration of friendships. A two-way MANOVA was used to examine ADHD status and gender differences in amount of online, text or telephone, and direct contact with adolescent nominated friends as dependent variables, and ADHD status and gender as fixed factors. Fisher's Exact test was used to investigate group effects on the likelihood of having cross-sex and age-discrepant friendships, as well as the likelihood of having friends with behaviour or learning problems.¹

2.3 Results

2.3.1 Number of Friends

As shown in Table 2.2, there was no significant difference between adolescents with and without ADHD in the number of friends they nominated. Adolescent males nominated more friends than adolescent females (Males: $M = 5.27$, $SD = 2.26$; Females: $M = 4.43$, $SD = 2.09$). Regarding parent corroborated friends, there were no significant group or gender differences. An ADHD status by gender interaction was found for parent corroborated friends. Females with ADHD had the fewest parent corroborated friendships. All adolescents, regardless of gender or ADHD status, reported having at least one friend, whether at school or outside of school. There were no significant group differences in the likelihood of having a friend at school, $\chi^2(1, N = 106) = 1.31$, $p = .252$. Although 90% ($n = 53$) of adolescents with ADHD and 96% ($n = 45$) of adolescents without ADHD had at least one friend in school, it is noteworthy that 14.3% ($n = 3$) of girls with ADHD, compared to 4.3% ($n = 1$) of girls without ADHD were friendless at school.

¹ Analogous analyses were completed using ADHD status and age as fixed factors (Appendix G; Appendix H). No ADHD status, age, or group by age interaction effects were found.

2.3.2 Duration of Friendships and Contact with Friends

As shown in Table 2.3, there was no group effect for length of adolescent reported friendships. Males, however, reported having longer friendships than females (Males: $M = .22$, $SD = .11$; Females: $M = .16$, $SD = .12$). With regard to the amount of online, phone/text, and direct contact with friends for adolescent nominated friendships, there were no ADHD status (Wilks' $\Lambda = .95$, $F(3, 101) = 1.65$, $p = .182$, $\eta^2 = .05$), gender (Wilks' $\Lambda = .93$, $F(3, 101) = 2.55$, $p = .060$, $\eta^2 = .070$), or gender by ADHD status interaction effects (Wilks' $\Lambda = .97$, $F(3, 101) = .98$, $p = .405$, $\eta^2 = .028$).

Exploratory analyses of data on where the teens met their friends revealed that 14.3% ($n = 3$) of the female adolescents with ADHD reported meeting between one and four friends online. Of their 7 online friendships, only 1 was corroborated by a parent. Although the online friends of 2 of the 3 girls were exclusively female, the third girl reported that all 4 of her online friendships were with males. She reported having frequent online contact with all of them and meeting 3 in person, including 1 who was four years older than she. Her parents did not corroborate any of these friendships. None of the male participants with ADHD and none of the comparison adolescent participants reported meeting their friends online.

2.3.3 Identity of Friends

Adolescents with ADHD ($n = 11$; 19%) were significantly more likely to nominate younger or older friends than adolescents without ADHD ($n = 2$; 4.2%), $X^2(1, N = 107) = 5.20$, $p = .02$. There were no differences, however, in the proportion of cross-sex friendship nominations between adolescents with ADHD ($n = 38$; 64.4%) and without ADHD ($n = 24$; 50%), $X^2(1, N = 107) = 1.75$, $p = .187$.

As shown in Table 2.4, according to parent report, the proportion of adolescents with ADHD ($n = 12$; 27.9%) and without ADHD ($n = 4$; 11.1%) did not differ in terms of whether they had friends with learning problems, $X^2(1, N = 79) = 3.42$, $p = .064$. However, adolescents with ADHD ($n = 12$; 27.9%) were significantly more likely to have friends with behaviour problems than adolescents without ADHD ($n = 2$; 5.4%), $X^2(1, N = 80) = 6.97$, $p = .01$. Adolescents with ADHD ($n = 18$; 41.9%) were also more likely than adolescents without ADHD ($n = 5$; 13.9%) to have friends with either learning or behaviour problems, $X^2(1, N = 79) = 6.47$, $p = .01$.

2.3.4 Best Friendships

Eighty percent of the participants (47 male, 39 female) reported having a best friend. Fifty adolescents with ADHD (33 male, 17 female) and thirty-six comparison adolescents (14 male, 32 female) selected one nominated friend as their “very best friend.” Over half of best friendships across groups were parent corroborated ($n = 30$; 60% for adolescents with ADHD and $n = 24$; 66.7% for comparison adolescents). Only some adolescents with ADHD ($n = 4$; 7.3%) had best friends who were older or younger (by more than two years). Adolescents with and without ADHD did not differ in terms of having a best friend of the opposite sex (ADHD $n = 4$; 9.1%; Comparison $n = 7$; 12.7%). Adolescent males with and without ADHD did not differ in their reports that their best friend attended the same school (ADHD males $n = 20$; 54.1%; Comparison $n = 10$; 55.6%), while adolescent females with ADHD were significantly less likely to indicate that their best friend attended the same school (ADHD females $n = 8$; 42%; Comparison $n = 19$; 73%), $X^2(1, N = 55) = 4.38, p = .03$.

There were no group or gender differences in the length of adolescent nominated best friendships (ADHD: $M = .25, SD = .22$; Comparison: $M = .24, SD = .22$), $F(1, 99) = .54, p = .81, \eta^2 = .001$, and their reports of the amount of time they spent interacting with their best friend online, by phone/text, and outside school, Wilks' $\Lambda = .99, F(3, 98) = .093, p = .964, \eta^2 = .003$. There were no group differences in parent-reported contact with corroborated best friends online, by phone or text, and outside school, Wilks' $\Lambda = .92, F(3, 53) = .093, p = .287, \eta^2 = .076$. Both adolescent and their parents reported frequent contact (i.e., almost daily online or by phone/text; at least weekly outside school in person) with best friends.

According to parent report, adolescents with ($n = 2$; 6.5%) and without ADHD ($n = 2$; 7.4%) did not differ in having best friends with learning problems, *Fisher's* $p = .58$, or with behaviour problems (Adolescents with ADHD: $n = 3$; 9.7%; adolescents without ADHD: $n = 1$; 3.7%), *Fisher's* $p = .62$. Finally, there were no differences between adolescents with ADHD ($n = 4$; 12.9%) and comparison adolescents ($n = 3$; 11.1%) in the likelihood of having a best friend with either learning or behaviour problems, $X^2(1, N = 58) = .04, p = .834$.

2.4 Discussion

The purpose of this study was to explore the friendship characteristics of adolescents with ADHD with regard to the presence and duration of friendships, frequency of interaction with friends, and characteristics of friends (e.g., gender, age, learning and behaviour problems). The results of this study partially supported the prediction that adolescents with ADHD would have fewer parent corroborated friendships and more friends with learning and behaviour problems than adolescents without ADHD. Conversely, the prediction that adolescents with ADHD would have friendships of shorter duration and reduced contact with their friends was not supported.

2.4.1 Friendship Characteristics of Adolescents with ADHD

All adolescents, regardless of gender or ADHD status, reported having at least one friend, whether at school or outside of school (e.g., neighbourhood, sports, art lessons) and the majority of participants with ADHD (90%) reported having at least one friend in school. No group differences were found in the likelihood of having a best friend of the opposite sex, but only adolescents with ADHD reported having age-discrepant close and best friends. Based on parent corroborated friendships, adolescents with ADHD were also more likely to have friends with learning or behaviour problems than adolescents without ADHD. About half of adolescent males across groups indicated that their best friend attended the same school. In contrast, adolescent females with ADHD were less likely to attend the same school as their best friend than comparison females. In addition, although only a small proportion of the sample, only females with ADHD reported meeting friends online.

Teenagers typically report having 4 to 6 close friends (e.g., Cairns, Leung, Buchanan, & Cairns, 1995). In the present study, adolescents with and without ADHD typically reported having 4 to 5 close friends. Similar to previous friendship studies of children with ADHD (Bagwell et al., 2001; Marton et al., 2012), adolescents with ADHD in this study nominated similar number of friends as comparison teenagers. Some studies of children with ADHD (e.g., Hoza, Mrug, et al., 2005; Normand, 2011) have indicated that a high percentage of children with ADHD have fewer friends than those without ADHD or that children with ADHD are friendless; however, these studies restricted friendship nominations in number (e.g., top two friends), or to other children in the same classroom, school, or research setting (e.g., summer camp). As a result, children and youth with ADHD who might have close friends in another classroom or school, in the

neighbourhood or afterschool activities (e.g., sports), or whose friends are older or younger may be categorized as “friendless” or with few friends. As suggested by Schneider and colleagues (1994) and following procedures used by Marton and colleagues (2012), the present study allowed for unlimited friendship nominations and collected information about friends in and outside school. This procedure allowed adolescents to nominate any individual whom they consider to be a close friend, with responses ranging from 1 to 11, and captured naturally occurring adolescent friendships in important domains such as school and recreational activities. In this sample, the majority of adolescents with ADHD reported having at least one friend in school, and none reported being friendless. These findings are similar to those by Glass, Flory, and Hankin (2012) who found that adolescents with ADHD typically had at least one close, reciprocal friendship.

Although most adolescents in the current study nominated 4 to 6 friends, it is unclear if all of their reported friendships are unilateral or reciprocated, as parents corroborated, on average, only 1 to 2 adolescent-reported friendships across groups. Given the age group of the current sample (13 to 18 years), it is not entirely surprising that there was a low proportion of parent corroborated friendships. Consistent with normative developmental patterns, adolescents expect more privacy and might not share accurate information about their whereabouts or activities with parents (Kerr, Stattin, & Trost, 1999). In addition, adolescents are increasingly independent and parents may be less involved in organizing and facilitating activities with their children’s friends (Tilton-Weaver & Galambos, 2003); thus, parents may be less familiar with their children’s friendships when they reach adolescence. Although previous studies have found that fewer of the friends nominated by youth with ADHD were corroborated by their parents than those of comparison children (e.g., Bagwell et al., 2011; Marton et al., 2012), the samples in these studies were younger (Marton et al., 2012) than in the present study or examined total number of friendships (Bagwell et al., 2011) rather than specific individuals listed as friends.

In this study, females with ADHD had fewer parent corroborated friendships than males with ADHD and teenagers without ADHD. This finding was unexpected because girls generally disclose more information than boys and tend to experience greater parental solicitation of information (Stattin & Kerr, 2000). There are a few possible reasons for this finding. Babinsky and colleagues (2011) found greater impairment in self-reported and parent reported measures of family relations and mother-daughter conflict in late adolescent girls and young adult females

with ADHD. In addition, 14.3% ($n = 3$) of adolescent females with ADHD in the current study reported meeting from one to four close friends online, only one of which was corroborated by a parent. It is possible that adolescent females with ADHD did not disclose online friendships to their parents as they may be aware that their parents would likely not approve of these relationships. Conflictual parent-teen interactions at age 13 also contribute to the development of close friendships exclusively online by age 20 (Szwedo, Mikami, & Allen, 2011). In addition, adolescent girls with increased levels of depression, victimization, and difficult life events (i.e., divorce or separation, parent job loss, death of a family member, residential moves) are more likely to form close online friendships with strangers (Wolak, Mitchell, & Finkelhor, 2003). Mikami and colleagues (2015) found that by emerging adulthood (17 to 24 years), women with childhood ADHD reported having more interactions with strangers online than comparison females. It is therefore possible that individual and family characteristics of adolescent females in this sample resulted in fewer parent corroborated friendships for adolescent girls with ADHD.

As a group, adolescent males nominated more friends than females and reported having friendships of longer duration. This is consistent with previous research that shows that males tend to have larger friendship networks while females have closer, more intimate friendships (Berndt & Hoyle, 1985; Thorne, 1986). In addition, studies (e.g., Apter & Josselson, 1998; Kuttler, La Greca, & Prinstein, 1999) have found that best friendships of females tend to change more frequently than those of males. This may be related to increased emotional intensity and fragility in close female friendships, particularly when conflicts arise (Benenson & Christakos, 2003; Crick, 2005). Studies of children with ADHD (e.g., Blachman & Hinshaw, 2002; Normand et al., 2013), have found that their friendships are less stable than those of comparison children. In the current study, however, adolescents with and without ADHD reported friendships of similar duration, and adolescents with ADHD reported maintaining friendships for 2.5 to 3 years. Similarly, Marton and colleagues (2012) noted that children with ADHD maintained friendships for approximately 3 years, but these friendships were approximately a year shorter than comparison children. As the sample in the current study consisted of adolescents in grades 7 to 12, this reduction might be associated with normative changes in friendships during adolescence. For instance, varying rates of development in puberty and early adolescence may result in changes in interests, and thus, friendship choices (Bowker, 2004). In addition, normative transitions from elementary to middle school and high school impact

friendship stability (Goodwin, 2012). Adolescents might pursue different academic programs than their friends, leading to meeting new people with similar characteristics and interests and with whom they can have more frequent contact; in turn, this may result in establishing new friendships while terminating existing friendships. On average, adolescents with and without ADHD in this study reported establishing close relationships with their current friends in grade 7. This supports the notion that new friendships are formed after elementary school, including for adolescents with ADHD. Lastly, adolescents with ADHD in the present study reported having as much social contact (including time spent interacting online, talking on the phone and texting, and out-of-school contact) with friends as comparison adolescents.

Regarding characteristics of close friends, all adolescents reported having same-sex friendships. Over 60% of adolescents with ADHD and 50% of comparison adolescents reported having cross-sex friendships. The proportion of cross-sex close friendships in this study is consistent with normative trends in adolescence (e.g., Kluttler, La Greca & Prinstein, 1999). Adolescents with ADHD, however, were more likely to have age-discrepant friends than comparison adolescents. There might be a few reasons that explain these group differences. Approximately 1 in 3 children with ADHD have concurrent learning disabilities (DuPaul & Stoner, 2014), and are thus more likely to be placed in multi-grade special education classes. In this study, 61% of adolescents with ADHD also had a diagnosis of a learning disability. As proximity and similarity are important in friendship formation (Epstein, 1989), youth with ADHD might have more opportunities to establish close friendships with younger or older students within multi-age special education classrooms. It is also plausible that adolescents with ADHD form friendships with older or younger youth because of their overall less advanced social perspective taking (Marton et al, 2010; Timmermanis, 2015), difficulties applying social skills effectively (de Boo & Prins, 2007), and persistent challenges with attention, organization, and executive functions (Barkley, 2015). These difficulties might make it more challenging for adolescents with ADHD to “keep up” with the increasingly complex nature of same-age friendships and result in more age-discrepant friendships. It will be important for future research to consider whether establishing age-discrepant friendships might be adaptive for youth with ADHD who might otherwise remain friendless or if these friendships might increase their risk of further difficulties, particularly when befriending older youth (e.g., substance use, precocious sexual behaviour).

Consistent with childhood studies (e.g., Blanchman & Hinshaw, 2002, Marton et al., 2012; Normand et al., 2011), according to parent report, adolescents with ADHD (28%) were significantly more likely to have friends with behaviour problems than comparison adolescents (5%). Research has shown that friends of youth with ADHD are likely to demonstrate symptoms of ADHD as well as noncompliant and deviant behaviour (Bagwell et al., 2001; Normand et al., 2011). McQuade and Hoza (in Barkley, 2015) suggested that adolescents with ADHD might be more likely to join deviant groups, as a result of repeated social rejection in childhood. Thus, peers who have been rejected and have similar social difficulties as youth with ADHD might be more willing to befriend them. Although having a close friend can be protective against peer rejection (Blachman & Hinshaw, 2002) and victimization (Cardoos & Hinshaw, 2011), having friends who exhibit problem behaviour may lead to further social and behavioural difficulties (Berndt & Keefe, 1995; Dishion, McCord, & Poulin, 1999) as well as increase the likelihood of substance use in adolescents with ADHD relative to comparison youth (Marshal et al., 2003). Although the nature of their interactions is unknown, it is concerning that approximately 1 in 4 adolescents with ADHD in this study were reported to have developed close friendships with other youth with behaviour difficulties.

Descriptive findings suggest that a subset of adolescent girls with ADHD have significant challenges in their friendships. For instance, only adolescent females with ADHD reported meeting friends online, and, while not statistically significant, they were more likely to be friendless at school than comparison females. Females with ADHD were less likely than comparison girls to indicate that their “very best friend” attended the same school. Rucklidge and Tannock (2001) found that adolescent females with ADHD, ages 13 to 17, had higher psychological impairment in self-reported depression, anxiety, locus of control, self-esteem, and overall distress, and stress levels than comparison females, as well as more maladaptive attributional styles for negative events. Barkley and colleagues (2006) found a higher incidence of psychiatric symptoms (e.g., internalizing, externalizing, eating, substance use) and larger functional impairments (e.g., academic, social skills, peer relations, service utilization) among adolescent females who had been diagnosed with ADHD in childhood in relation to comparison girls. Similarly, Babinsky and colleagues (2011) found evidence of increased internalizing symptoms among adolescent girls, ages 15 to 18, and young adult females, ages 19 to 25, with ADHD. Additionally, adolescent females with ADHD are more impaired than comparison girls

in terms of social functioning (Mikami & Hinshaw, 2003; Owens, Hinshaw, Lee, & Lahey, 2009) and have significant problems in their social/interpersonal relationships (Hinshaw et al., 2012). It is thus possible that adolescent females with ADHD might be seeking to reduce feelings of loneliness by establishing friendships online. This might be especially true for those who are friendless at school, as were 14% of the adolescent girls with ADHD in this study. Of clinical concern, online friendships with strangers could increase the likelihood of these adolescent girls being victimized or exploited, particularly given difficulties with social cognition and self-monitoring in youth with ADHD (Barkley, 2015). In addition, a study of cyber bullying behaviours among middle and high school students by Mishna and colleagues (2010) found that older adolescent girls (grade 10 and 11) are more likely than adolescent boys to receive unwelcome sexual material, be asked to engage in sexual activities online, or have their private pictures shared online without their consent. In addition, older adolescent girls are more likely to be cyberbullied than boys (Mishna et al., 2010), and adolescent females with ADHD experience higher levels of victimization (Sciberras, Ohan & Anderson, 2011). Moreover, if teenage girls with ADHD withdraw from social interactions at school, it might be even more difficult for them to establish friendships, which would thus lead to further isolation, rejection, or victimization by peers (Hodges & Perry, 1999). This is concerning given the long-term negative academic, social, and emotional outcomes of chronic peer victimization (Card & Hodges, 2008, Pepler et al., 2006).

2.4.2 Limitations and Implications for Future Research

The findings of the current study are primarily based on adolescent reports and their perception of friendships. Adolescent nominated friendships in this study likely include both mutual and non-reciprocated friendships. Although logistically difficult, future studies should examine whether the friendships of adolescents with ADHD are reciprocated by their nominated friends as well as the reports of those friends about the duration and frequency of contact in their relationships. This study provides information regarding friendship duration and frequency of contact with friends. Because data were collected only once, there is no information regarding short-term or long-term changes in adolescent friendships. Information regarding friends with learning or behaviour problems was available for approximately 75% of adolescents and was obtained only from parents. Future research should obtain information about friends' learning

and behaviour problems from both adolescents and their parents, and, ideally, from the nominated friends themselves.

Another potential limitation involves statistical power and sample size. There were no significant differences between adolescents with and without ADHD in regard to the number of friends they nominated, the duration of their friendships, or amount of contact with their friends, possibly because a much larger sample ($n = 269$) would be needed to detect a medium effect. However, the sample used in this study ($n = 107$) allows for the detection of large effects; thus, the between group differences that did emerge likely have clinical significance. Given the sample size of this study, it was not possible to examine the effects of ADHD status, gender, and age in the same analysis; these moderators should be included in future research.

Another limitation involves not examining other important aspects of friendships, such as friendship quality or the mechanisms involved in forming and maintaining friendships. Future research could explore the quality of close friendships, including positive and negative aspects of friendships, as well as the friendship experiences of adolescents with ADHD, including how they navigate peer and friendship networks, how they establish and maintain friendships, positive and negative qualities in their friendships, and experiences of bullying and victimization by peers and friends.

Despite these limitations, this study adds to the existing literature on friendships of adolescents with ADHD by providing information regarding adolescents' close friendships in school and outside of school. In addition, this study is the first to report the length of naturally occurring adolescent friendships as well as the amount of social contact with friends (online, text and phone, and in-person) from the perspective of teenagers with and without ADHD. A strength of this study was the inclusion of 21 girls with ADHD, which comprised 36% of the ADHD group. This is important as the majority of ADHD research has been conducted with predominately male samples (Barkley, 2015).

2.4.3 Clinical Implications

The present findings have implications for psychologists who engage in assessment and treatment planning and delivery, as well as for parents and educators of adolescents with ADHD. While most adolescents with ADHD reported that they have at least one close friend, this study

found that they have more friends who are older or younger and who have behaviour problems than adolescents without ADHD. Having close friends might attenuate negative life experiences, such as peer rejection, bullying, and poor parent-child relationships. However, establishing close friendships with deviant peers has been associated with negative outcomes, such as delinquency, anxiety, depression, and substance use (Berndt & Keefe, 1995; Dishion, et al., 1999). Therefore, parents of teenagers with ADHD who have friends with behaviour difficulties are encouraged to monitor their children's activities closely and intervene when problems arise.

As a group, adolescent girls with ADHD had fewer parent corroborated friendships. In addition, a subset of these teens sought friendships with strangers online. Online friendships with strangers could increase the likelihood of these adolescent girls being exploited or victimized, particularly given difficulties with social cognition and self-monitoring in youth with ADHD (Barkley, 2015). For instance, it is possible that girls with ADHD engage in risky online behaviour, such as posting private, inappropriate, and potentially damaging information online (e.g., pictures, videos), that would increase the possibility of being victimized or exploited by strangers and peers. Therefore, parents of teenage girls with ADHD should be vigilant of their daughters' activity on social networking sites and forums and, if needed, seek professional support to enhance their daughters' appropriate and safe use of technology.

It is important for psychologists working with adolescents with ADHD to routinely assess peer relationships, including friendships. Existing rating scales (e.g., Conners-3; Child Behavior Checklist) include questions that evaluate peer relationships. In addition, obtaining information about the number and characteristics of friends, as well as length of friendships and activities with friends, during clinical interviews will likely provide clinicians with important insights. Given the negative long-term outcomes of peer rejection, social isolation, and friendlessness, psychologists working with adolescents with ADHD should provide support to those who are friendless in school, who are struggling to establish or maintain close friendships, and whose close friends are adolescents with behaviour problems or friends they meet and primarily interact with online. In general, parents, educators, and clinicians should continue to help youth with ADHD develop high quality friendships with non-deviant peers throughout adolescence.

Adolescents with ADHD will likely benefit from targeted psychosocial interventions (e.g., psychoeducation, group counselling/support/skills training, problem-solving, conflict resolution)

aimed to improve their social competence. The literature on efficacious, accessible, and lasting treatments for high school-aged youth with ADHD and their parents is small (Molina et al., 2009). However, preliminary results for interventions for adolescents with ADHD delivered through after-school settings, intensive summer programs, and outpatient clinics that incorporate adults (parents, school counsellors, teachers) as collaborators have shown promising results (see Sibley, 2014 for a review). Finally, clinicians must remain attentive to the increased risk of internalizing disorders for teenage girls with ADHD, as these might be compounded by problems with social relationships, particularly if they experience difficulties establishing friendships at school, which may be one of the factors that lead to seeking companionship with strangers online. It is essential to help adolescent females with ADHD form meaningful connections with peers and adults at school and provide direct intervention to address emotional distress that results from interpersonal difficulties to prevent or ameliorate the emergence of internalizing disorders and associated functional impairments.

2.5 Tables

Table 2.1: Adolescent and Family Demographics

	ADHD			Comparison					
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>Df</i>	<i>t</i>	<i>p</i>
Adolescents									
Age	59	15.19	1.48	48	15.23	1.64	105	-.141	.888
WASI IQ	59	106.44	11.80	48	110.27	8.77	105	-1.87	.065
Conners-3 Parent									
DSM-IV Inattentive	59	80.29	8.17	48	48.40	6.19	105	22.31	.000
DSM-IV H/I ^{ab}	59	80.51	10.69	48	48.31	6.13	95.11	19.52	.000
Peer Relations ^b	59	68.54	17.60	48	49.31	10.91	98.61	6.92	.000
Conners-3 Teacher									
DSM-IV Inattentive	45	59.78	14.53	39	51.28	12.46	82	2.85	.005
DSM-IV H/I ^a	46	62.28	12.41	39	51.85	10.53	83	4.14	.000
Peer Relations ^b	46	60.87	17.27	39	49.82	8.28	66.88	3.85	.000
Conners-3 Self									
DSM-IV Inattentive	58	64.81	10.43	47	53.34	10.78	103	5.52	.000
DSM-IV H/I ^a	58	63.55	12.71	47	52.11	10.61	103	4.93	.000
Family									
Parental Education ^c	50	8.92	1.34	44	8.91	1.29	92	.040	.968

a) H/I – Hyperactive/Impulsive

b) The Levene's test for equality of variance was significant, therefore unequal variances assumed are reported.

c) Parent education was measured on an 11-point scale as follows: 1 = no schooling, 5 = completed secondary school, 6 = some college, 7 = completed college, 8 = some university, 9 = completed undergraduate degree, 10 – 11 = postgraduate education.

Table 2.2: Univariate Analyses of Number of Friendships by ADHD Status and Gender

	ADHD		Total	Comparison		Total	ADHD Status	Gender	ADHD Status x Gender
	Male	Female	(N=59)	Male	Female	(N=48)			
	(N=38)	(N=21)	<i>M</i>	(N=22)	(N=26)	<i>M</i>	<i>F</i> (n^2_p)	<i>F</i> (n^2_p)	<i>F</i> (n^2_p)
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	(<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	(<i>SD</i>)			
Adolescent Nominated ^a	5.21 (2.42)	3.81 (1.83)	4.71 (2.31)	5.36 (2.01)	4.92 (2.19)	5.13 (2.10)	2.14 (.020)	4.53 (.042)*	1.2 (.01)
	ADHD		Total	Comparison		Total	ADHD Status	Gender	ADHD Status x Gender
	Male	Female	(N=53)	Male	Female	(N=41)			
	(N=34)	(N=19)	<i>M</i>	(N=19)	(N=22)	<i>M</i>	<i>F</i> (n^2_p)	<i>F</i> (n^2_p)	<i>F</i> (n^2_p)
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	(<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	(<i>SD</i>)			
Parent Corroborated ^a	1.79 (1.40)	1.16 (.96)	1.58 (1.29)	1.26 (.87)	1.68 (1.13)	1.49 (1.03)	.001 (.00)	.263 (.003)	4.69 (.049)*

* $p < .05$; ** $p < .01$

a) Bootstrapping was used across analyses to increase the robustness of findings, as some variables violated assumptions of normality or homogeneity.

Table 2.3: Univariate Analyses of Length of Adolescent Nominated Friendship and Multivariate Analyses of Amount of Contact with Adolescent Nominated Friends by ADHD Status and Gender

	ADHD		Total	Comparison		Total	ADHD Status	Gender	ADHD Status x Gender
	Male	Female	(N=59)	Male	Female	(N=48)			
	(N=38)	(N=21)	M	(N=22)	(N=26)	M	F (n^2_p)	F (n^2_p)	F (n^2_p)
	M (SD)	M (SD)	(SD)	M (SD)	M (SD)	(SD)			
Average length of friendships ^{ab}	.23 (.12)	.17 (.14)	.21 (.13)	.21 (.10)	.17 (.10)	.19 (.10)	.18 (.001)	4.13 (.039)*	.152 (.001)
Amount of contact online ^{ac}	3.91 (1.85)	3.94 (1.70)	3.92 (1.78)	4.64 (1.01)	4.51 (1.26)	4.57 (1.14)			
Amount of contact by text or telephone ^{ac}	4.35 (1.68)	4.19 (1.35)	4.30 (1.56)	3.92 (1.84)	4.74 (1.65)	4.36 (1.77)			
Amount of contact in person ^{ac}	4.08 (1.17)	3.60 (1.25)	3.91 (1.21)	4.21 (.68)	4.01 (.80)	4.10 (.74)			

* $p < .05$; ** $p < .01$

a) Bootstrapping was used across analyses to increase the robustness of findings, as some variables violated assumptions of normality or homogeneity.

b) The average length of adolescent nominated friendships was divided by the adolescent's age to obtain a score reflecting the proportion of the adolescent's age on average that they have maintained reported friendships.

c) The amount of online, telephone/text, and direct contact is the mean contact across nominated friends.

Table 2.4: Frequency of Friends with Learning or Behaviour Problems by ADHD Status

	ADHD (N=43) n (%)	Comparison (N=37) n (%)	(df,N) = χ^2 (p)
Corroborated friends with behaviour problems ^a	12 (27.9)	2 (5.4)	(1,80) = 6.97 (.008)
Corroborated friends with learning problems ^a	12 (27.9)	4 (11.1)	(1,79) = 3.42 (.064)
Corroborated friends with either learning or behaviour problems ^a	18 (41.9)	5 (13.9)	(1,79) = 6.47 (.011)

a) Friends with behaviour and learning problems was calculated by examining which parent corroborated friends were rated as having behaviour and or learning problems.

Chapter 3

Finding True Friendships: A Qualitative Exploration of the Friendship Experiences of Adolescents with Attention-Deficit/Hyperactivity Disorder

The goal of this study was to obtain insight into the perspectives and experiences adolescents with Attention-Deficit/Hyperactivity Disorder (ADHD) have about their friendships. Nine adolescents with ADHD participated in in-depth, semi-structured interviews addressing their peer relationships and friendships. Interviews were coded using a modified grounded theory framework. Three themes emerged: a) social isolation and exclusion, b) prepared to be friendless at school, and c) finding acceptance. Adolescents with ADHD reported chronic peer rejection and isolation, as well as challenges with close friends in childhood and early adolescence. They also recalled feeling embarrassed and emotionally distressed, and they perceived their unique challenges as uncontrollable, pervasive, and stigmatizing. Although many participants reported becoming resigned to being friendless in adolescence, the transition to high school facilitated their friendship development. Specific suggestions to support children and adolescents with ADHD who struggle with peer relations and friendships from the adolescents' perspective, as well as clinical and research implications of these findings are discussed.

3 Finding True Friendships: A Qualitative Exploration of the Friendship Experiences of Adolescents with Attention-Deficit/Hyperactivity Disorder

3.1 Introduction

The purpose of this study is to gain insight into the perspectives and experiences adolescents with Attention Deficit/Hyperactivity Disorder (ADHD) have about their friendships. The results of Study 1 indicated that adolescents with and without ADHD did not differ in the number of friends they reported to have, the duration of their friendships, or the amount of contact they have with their friends. While promising, these findings differ from the existing research literature that has established that children with ADHD have fewer and less stable friendships as well as reduced contact with friends. On the other hand, differences did emerge, such as the finding that adolescents with ADHD were more likely to have friends who were younger or older and more friends with behaviour difficulties than comparison adolescents. In addition, adolescent

girls with ADHD had fewer parent corroborated friendships, and a subset of these teens sought friendships with strangers online. I therefore conducted a qualitative study to assist in explaining and interpreting the results of Study 1 as well as to explore the meaning and experiences of friendship from the perspective of adolescents with ADHD.

3.1.1 ADHD and Adolescent Friendships

Approximately 5-10% of school-age children in Canada have a diagnosis of ADHD (Scahill & Schwab-Stone, 2000). About 50% to 80% of youth diagnosed with ADHD in childhood maintain significant symptoms and meet diagnostic criteria for the disorder in adolescence (Barkley, 2015). Children and adolescents with ADHD have significant problems with inattention, hyperactivity, and impulsivity (American Psychiatric Association, 2013; Barkley, 2015). Among children with ADHD, difficulties with attention and impulse control coupled with deficits in social skills (e.g., Murray-Close et al., 2010) and social perspective taking (Marton, Wiener, Rogers, Moore, & Tannock, 2009; Sibley, Evans, & Serpell, 2010) have been associated with poor peer relations (Bagwell, Molina, Pelham, & Hoza, 2001; Hoza, 2005), fewer and less stable friendships (Hoza et al., 2001; Bagwell et al., 2001; Marton et al., 2012; Normand et al., 2013), and lower quality friendships (Normand, 2011). Children with ADHD are more likely to have friends with learning and behaviour problems (Marton et al., 2012; Normand, 2011) and are at an increased risk for being victims and perpetrators of bullying (Wiener & Mak, 2009).

When describing peer relations, it is important to distinguish between general experiences within the larger peer group, namely peer acceptance and rejection, and those that occur at the dyadic level (Bukowski & Hoza, 1989). Although better accepted youth have more opportunities to form friendships (Newcomb, Bukowski, & Bagwell, 1999; Parker & Asher, 1996), popular children can remain friendless while rejected children develop mutual friendships (Gest, Graham-Bermann, & Hartup, 2001). Adolescence is characterized by an increased importance of peer acceptance and close friendships as well as the emergence of romantic relationships. Close friends become a primary source of social support and contribute to adolescent self-concept and well-being (Furman & Buhrmester, 1992). Both peer acceptance and friendship quality in adolescence are associated with psychological well-being and general adjustment (Bagwell & Schmidt, 2011). Existing studies on adolescents with ADHD indicate that youth with ADHD exhibit general deficits in social problem-solving and perspective taking (Sibley et al., 2010;

Timmermanis, 2015), are less likely to be accepted (Sibley et al., 2010) and more likely to be rejected (Bagwell et al., 2001) by peers and to experience more peer victimization (Timmermanis & Wiener, 2011) than adolescents without ADHD. Adolescents with ADHD are also more likely to have friends with behavior problems (Bagwell et al., 2001) and often associate with deviant peer groups (Becker, Luebke, & Langberg, 2012; Vitaro et al., 1997), which increases their risk for substance use (Marshall, Molina, & Pelham, 2003) and long-term adjustment difficulties (Keefe & Berndt, 2006). Regarding romantic relationships, Rokeach and Wiener (in press) found that adolescent girls with ADHD report having romantic relationships of shorter duration than comparison adolescents, and boys with ADHD report having sexual intercourse almost 2 years earlier than boys without ADHD. In addition, adolescents with ADHD report almost double the number of lifetime sexual partners than comparison adolescents. In sum, the few studies on the peer relationships and friendships of adolescents with ADHD suggest persisting social difficulties.

I identified two qualitative studies that have explored the perceptions and experiences of peer relationships of adolescents with ADHD. Shea and Wiener (2003) explored the experiences of chronic victimization of four boys diagnosed with ADHD, ages 11 to 13, by interviewing them, their parents, and their teachers. These boys reported being frequent victims of bullying and harassment, including physical aggression, verbal harassment, and social exclusion. In addition, problems with establishing and maintaining close friendships were identified. Social exclusion was identified as the core category that embodied the experience of peer victimization, and the social exclusion experienced by these boys was described as “salient and hurtful” (Shea & Wiener, 2003, p. 75) and as causing psychological and emotional distress. For these children, social skills deficits, emotional volatility, immaturity, and a lack of insight characterized the theme “being different” which was identified as a central reason for being bullied and socially excluded. Similarly, Wiener and Daniels (2016) found that 14 to 16 year-old adolescents with ADHD reported experiencing bullying victimization in elementary and middle school and having less stable friendships, which were mainly with other teens with learning and behaviour problems. Wiener and Daniels also noted that these teens generally did not disclose feelings and personal issues with their friends. The findings from both qualitative studies suggest that the challenges with developing high quality close friendships documented in research with children with ADHD might persist into adolescence.

3.1.2 Objectives of Current Study

The objective of this study is to gain in-depth understanding of how adolescents with ADHD experience friendships and investigate the mechanisms that influence their friendships. The study is guided by the following research questions: 1) How do adolescents with ADHD understand friendship and what features do they consider most important in their friendships? 2) What difficulties do adolescents with ADHD experience in their friendships and social relationships? 3) What supports do adolescent with ADHD identify as potentially helpful in developing and maintaining friendships?

3.2 Methodology

3.2.1 Theoretical Framework

I used a qualitative approach to gain an in-depth understanding of adolescents with ADHD and their experiences with friendships. Qualitative researchers attempt to understand how people interpret real-world events and to describe the meanings people attribute to their experiences (Merriam, 2009; Patton, 2014). The current study uses grounded theory methodology (Glaser & Strauss, 1967; Corbin & Strauss, 2008) as a framework for collecting and analyzing data. The goal of this methodology is to develop formal, substantive theory that is grounded in the participants' perspective of a particular social phenomenon (Charmaz, 2014; Corbin & Strauss, 2008; Glaser, 1992). Traditional grounded theory (Glaser & Strauss, 1967) emphasized that qualitative researchers set aside any preconceived notions to formulate, but not test, theory. Strauss and Corbin (1998), however, advocated using grounded theory to verify existing theory and generate theory based on conditions related to the phenomenon. In recent literature on grounded theory it is argued that “multiple, contextualized truths and several social processes could explain a particular phenomenon” (Hays & Singh, 2012, p. 49). Qualitative research is influenced by the researcher's socio-cultural setting, academic training, and personal perspectives (Charmaz, 2013; Clarke, 2005). Charmaz (2013) proposes that theories are not discovered, but researchers construct them as a result of their interactions with participants and their emerging analyses. As such, the current study does not purport to develop a new theory of friendship but rather aims to gain in-depth understanding of how adolescents with ADHD experience friendships and investigate the processes and contexts that influence their friendships. In addition, I subscribe to the notion that there are multiple truths regarding the experience of

friendships for adolescents with ADHD; participants' experiences are specific to their contexts, and the proposed theory is co-constructed and influenced by the beliefs and experiences of the participants and researcher.

In qualitative research, the credibility of findings depends on the richness of the information gathered and the analytical skills of the researcher (Patton, 2014). Grounded theory relies on theoretical sampling, a process that involves simultaneous data collection and analysis that directs where the researcher collects additional data in order to refine emerging concepts and themes (Glaser, 1992; Glaser & Strauss, 1967). Sampling continues until all relevant concepts or themes are well defined and explained, also known as saturation. Purposeful maximum variation sampling (Merriam, 2009) was used in this study to gain in-depth understanding of the mechanisms and contexts that influence the friendship experiences of adolescents with ADHD. Purposeful sampling does not preclude making comparisons on the basis of concepts during analysis (Corbin & Strauss, 2008; Patton, 2014). Constant comparison analysis was used to identify categories and patterns and propose plausible explanations about the relationships among concepts in order to construct theory (Charmaz, 2014; Corbin & Strauss, 2008).

3.2.2 Participants

The sample for this study was comprised of 9 adolescents with ADHD (4 males, 5 females) between 16 and 18 years of age, with an average age of 17. All participants were enrolled in high school (1 participant in grade 11, 8 in grade 12) in a diverse urban area in Canada. Of those in grade 12, 25% ($n = 2$) had obtained enough credits to graduate but were taking additional courses prior to applying to post-secondary education. One participant had completed all her studies in a French Immersion program.

Participants had average intellectual ability ($IQ \geq 85$) as assessed by the Wechsler Abbreviated Scale of Intelligence (WASI; Wechsler, 1999) and had previously received an ADHD diagnosis by a psychologist or physician based on DSM-IV criteria. The DSM-IV Inattentive and DSM-IV Hyperactive/Impulsive scales of Parent, Teacher, and Self-Report of the Conners – 3rd Edition (Conners, 2008) were used to confirm ADHD symptoms. Participants were classified as having ADHD in one of two ways: a) participants had at least one parent rating within the clinical range ($T \geq 70$) on the DSM-IV Inattentive or DSM-IV Hyperactive/Impulsive scales; or b) participants had at least one borderline rating ($T \geq 65$) by a parent and a second rater (teacher or self-report).

At the time of the interview, eight adolescents reported at least one comorbid diagnosis by a medical or mental health professional (e.g., psychiatrist, psychologist): Six adolescents were diagnosed with a comorbid learning disability, one with Tourette's Disorder, and one with a vision impairment. Three adolescent females were diagnosed with anxiety or depression and were taking medication to address their symptoms. See Table 3.1 and Table 3.2 for a summary of participant characteristics. To protect participants' confidentiality and ensure anonymity, all names are pseudonyms.

Regarding family composition, 67% of participants' parents were married ($n = 6$), 22% were divorced ($n = 2$) and 11% were separated ($n = 1$). In terms of parental education (measured by the highest level of parental educational attainment in the household), 22% of parents ($n = 2$) completed a college degree, 11% enrolled in university but did not complete a degree ($n = 1$), 33% completed an undergraduate degree ($n = 3$), 22% obtained a graduate degree ($n = 2$), and one family did not provide information regarding their educational attainment. Fifty percent of participants ($n = 5$) had a parent with a confirmed diagnosis of ADHD by a medical or mental health professional and 50% of participants ($n = 5$) had a parent who suspected having ADHD but had not been formally diagnosed. Seventy-eight percent of families ($n = 7$) reported speaking English as their primary language and 22% reported speaking English as a Second Language ($n = 2$: Spanish = 1; Italian = 1).

3.2.3 Measures

3.2.3.1 Wechsler Abbreviated Scale of Intelligence

The Vocabulary and Matrix Reasoning subtests of the *Wechsler Abbreviated Scale of Intelligence* (WASI; Wechsler, 1999) were administered to obtain an estimate of the adolescents' intellectual functioning.² This abbreviated IQ scale demonstrates good internal consistency and test-retest reliability. The correlation with the Full Scale IQ on the WISC-III is .81.

² Scores on the WASI and Conners 3 were extracted from a larger study of adolescent friendships.

3.2.3.2 Conners Rating Scale – Third Edition

The *Conners Rating Scale, Third Edition*, (Conners, 2008; Parent Conners 3-P, Teacher Conners 3-T, and Self-Report Conners 3-SR) was used to confirm ADHD symptoms of inattention and hyperactivity/impulsivity as well as to assess problems with peer relations. Parents and teachers rated adolescents' behaviour on a four-point scale ranging from 0 (Not true at all/Never, Seldom) to 3 (Very much true/Very Often, Very Frequently). Adolescents rated their own behaviour using a similar four-point scale. The DSM-IV Inattentive, DSM-IV Hyperactive-Impulsive, and Peer Relations subscales used in this study have strong internal consistency (Parent: .93, .92, .85; Teacher: .94, .95, .92; Self-Report: .89, .83) and good test-retest reliability (Parent: .84, .89, .78; Teacher: .85, .84, .87; Self-Report: .71, .72). Parents, teachers and adolescents were asked to report on behaviours when the adolescents were not on medication.

3.2.3.3 Adolescent Friendship Questionnaires

The *Adolescent Friendship Questionnaire* (AFQ) was adapted by Wiener and Schneider (2002; Appendix D) to assess the number of adolescent nominated friends, and the duration and amount of contact in adolescent-nominated friendships. In an individual interview, adolescent participants were asked to list the first names and last initial of their “close friends” at school and outside of school and to answer specific questions about these friends (e.g., gender, age, length of close friendship, and frequency of interactions). Lastly, adolescents were asked to indicate who was their “single best friend” and “single best friend at school.” The frequency of online and telephone contact between friends was assessed on a six-point Likert scale ranging from 1 (Almost every day) to 6 (Never). The frequency of direct contact outside of school was assessed on a five-point scale ranging from 1 (Once a week or more) to 5 (Never). The friendship interview was administered in the present study and had been previously administered to all participants in a previous study of adolescent friendships.

Qualitative Interview: A semi-structured interview (Appendix E) was used to explore how adolescents with ADHD understand friendships, difficulties they might experience in friendships and social relationships (e.g., getting along with others, making and keeping friends, solving conflicts), and supports they identify as potentially helpful in developing and maintaining friendships. The first part of the semi-structured interview focused on their current relationship with each of their three closest friends. Then, participants were asked general questions about

friendships in adolescence, including positive and negative aspects and personal expectations in the context of close friendships, and experience with romantic relationships. The third part of the interview explored current and past difficulties encountered in friendships and peer relations. Finally, participants were asked about supports that might be helpful for children and youth with ADHD who encounter friendship difficulties, their teachers, parents, and mental health professionals involved in their care (e.g., psychologists).

3.2.4 Procedure

The current study was approved by the University of Toronto Research Ethics Board. The selection of participants was informed by the anticipated richness and relevance of the information they could provide about the friendship experiences of adolescents with ADHD. Participants were recruited from a larger sample of adolescents who had previously participated in a study on friendships of adolescents with ADHD and provided consent to be contacted for future studies. Male and female adolescents with ADHD, between the ages of 15 and 18, who were enrolled in high school were recruited for this study to gain insight about their experiences of friendship. Additionally, efforts were made to recruit an equal number of male and females and adolescents with and without significant peer relationship problems (based on parental or teacher ratings on the Conners 3-P and Conners 3-T). Parents of potential participants ($n = 28$) were contacted by phone and given information about the study. Adolescents who met the inclusion criteria and expressed interest ($n = 10$; 1 adolescent could not be contacted, 12 did not respond, 1 was enrolled in college, and 4 declined) were contacted by telephone a second time and the study was explained in more detail (Telephone Script, Appendix C). Participants who agreed to participate in the study ($n = 9$) were mailed an electronic packet of information that included a detailed summary of the study procedures, parent consent form, youth assent form, and directions to the university (Consent Forms, Appendix F). Permission to audio-record and use professional transcription services to transcribe the interviews, as well as to access previously collected information about participants was obtained from adolescents and their parents. Previously collected information included background and demographic information (e.g., family composition, parental education), scores on individual measures of cognitive and behaviour functioning (i.e., WASI, Conners 3rd Edition) and participants' responses to previously administered friendship measures (i.e., Adolescent Friendship Questionnaire).

To avoid collecting and storing identifiable information, parental consent and youth assent were documented in a non-identifying log (Appendix F), and signed parent consent forms were destroyed immediately after all participant data were collected. In addition, participants were assigned a unique numerical identification code that was used to label all materials related to each participant, including the friendship questionnaire, semi-structured interview and transcript, and data extracted from the larger study on friendships. Pseudonyms were assigned to participants and their friends after transcription of audio files was completed.

Adolescents with ADHD have a higher risk of serious mental health issues (e.g., depression, anxiety, conduct disorder) than other adolescents (Barkley, 2015). To address the possibility that participants could become upset when asked about difficulties with peer relations and friendships or disclose situations that might place them at risk of harm (e.g., sexual exploitation, behaviours associated with criminality), protocols to address emotional distress and disclosure of risk of harm were developed prior to recruitment (Appendix F). Implementation of these protocols was not necessary for any participant.

I conducted individual face-to-face interviews with participants in a quiet and private location over a five-month period, one to two years after their participation in the previous friendship study. The interviews ranged from 45 to 75 minutes and began by revisiting study procedures and obtaining verbal assent from the adolescents. I then reviewed issues of confidentiality and limits (e.g., suicidal ideation, sexual abuse or exploitation) in detail and reminded adolescents that their participation in the study was voluntary. After assent was obtained, participants provided current demographical information, including age, grade, diagnoses, and medication status. Lastly, I used the Adolescent Friendship Questionnaire (AFQ) to obtain information about their current friendships and the semi-structured interview to gain in-depth understanding of their friendship experiences.

I have over 13 years of clinical experience working with children and adolescents with learning, behaviour, and socio-emotional difficulties, including youth with ADHD, which enhanced my ability to establish rapport, engage adolescents in conversations about their social relationships, and provide a safe space for them to discuss difficulties they have experienced. I encouraged participants to be honest in their responses while reminding them that they were in complete control of what information was shared with me. The interview guide progressed from discussing

specific information about their current friendships to a general discussion of adolescent friendships, followed by conversations about difficulties that youth with ADHD may experience in peer relations and friendship and advice they might have for parents, teachers, professionals, peers, and other youth with ADHD. This approach was helpful in obtaining rich information, as adolescents had multiple opportunities to share their perceptions. When discussing general concepts in friendships and difficulties adolescents with ADHD might experience, some participants began by using global descriptions or discussing “other people with ADHD” but invariably returned to discussing their own friendships and personal difficulties.

I endeavored to remain non-judgmental, refrain from making assumptions, and maintain an open mind regarding the experiences shared by adolescents. The interview style was conversational, and questions were omitted, added, or re-ordered as needed based on the participants’ responses. The use of semi-structured interviews, with specific prompts to promote elaboration, enhanced the participants’ engagement and their ability to provide rich descriptions of their unique perspectives. At the end of the meeting, I invited participants to provide feedback about my interactions with them (e.g., “Is there anything you think I could do differently? It is important for me to get your opinion about how you felt about sharing information with me and how I interacted with you.”) and the content of the interview (e.g., “Did I miss anything that you think is important to help me understand the experiences of teenagers with ADHD and friendships?”). The interview guide included multiple prompts to address any difficulties with attention and to help participants elaborate on their responses. I was mindful, however, to avoid “interrogating” the participants (Charmaz, 2015). When asked if the interview had too many questions, one participant said, “Some questions were a little bit repetitive but... that might be good just because some people might not share right in the first time around or explain it properly the first time.” An exchange with another participant was as follows:

P: “You have to ask me questions! It helps me, yeah. It jogs my memory, and like – when it just says...”

I: Like, if I had just said, ‘Tell me all about friendships?’

P: I wouldn’t be able to do it.

Interviews were audio-recorded for the purposes of transcription and subsequent analysis.

Research informed by grounded theory relies on the accuracy of the information content and

requires verbatim transcription of colloquial speech that captures the participants' own words, language and expressions (Hennink & Weber, 2013). Verbatim transcription can be very time and labor intensive and extended lags between interviews and completion of transcripts for analysis might disrupt the iterative analysis process (Kvale & Brinkmann, 2009). As a novice transcriptionist and qualitative researcher, I decided to hire a professional transcriptionist, who agreed to abide by a confidentiality agreement (Appendix E), to transcribe audio-recordings of the interviews. To protect their anonymity and confidentiality, recordings and transcripts were labeled with the participant identification number. Full transcriptions of the recorded discussion included speaker identifiers and verbal utterances (e.g., "mm hum", "umm"), retention of participants' colloquial styles of speech, and avoidance of grammar correction as well as notations for emotional content (e.g., [laughter] [seems sarcastic]). As recommended by MacLean and colleagues (2004), I reviewed all transcripts to verify accuracy and address any misinterpretation of content by carefully checking the transcribed interviews against the audio recordings.

3.2.5 Data Analyses

I used NVivo 11 qualitative software to organize and manage the data and facilitate analysis. Initially, the interview topics and questions served to organize all data (i.e., data pertaining to current friendships, general conceptualizations of friendship in adolescence, and difficulties adolescents with ADHD might experience in friendships and social relationships and supports to address these difficulties). Constant comparison analysis was used to promote the continuous creation, evaluation, and refining of conceptual codes. I relied on memos and journaling to reflect on information learned throughout the process and assessed whether my ongoing thoughts, ideas and insights were reflected, or *grounded*, in the data (Charmaz, 2014; Corbin & Strauss, 2008).

The first and second phases of coding, open and axial coding, involved examination of interview transcripts. During open coding, I carefully reviewed each transcript in its entirety several times to help me become immersed in the data. Then, I examined participant responses for the purpose of "naming" units of code based on words used by participants. These units of code consisted of simple sentences and longer phrases and provided the foundation for conceptual categories used during axial coding. After the initial coding of each transcript, I summarized the content of each

interview and outlined potential relationships between codes within each case. According to Corbin and Strauss (2008), analysis of individual cases ensures the creation of categories that are context specific to each case. I met with my thesis advisor regularly to evaluate and refine codes and categories that I developed after the initial coding of interviews. Once all cases were summarized, I used cross-case analysis to identify patterns and potential relationships between concepts that were consistent across individual experiences.

My initial list included over 50 codes. The semi-structured interview included friend-specific and general questions about friendships, resulting in overlapping codes both within and across cases. For example, the code “reciprocity” encompassed other codes, such as “one-side sharing,” “helping friends”, and “sharing with friends.” These codes were also applicable to specific friends and the participants’ conceptualization of friendships in adolescence. Reiterative comparison analyses continued until codes were refined and grouped into broader categories and conceptual categories were developed. I created memos that included general observations and thoughts about the content and process of each interview at multiple points in the data analysis process. Journaling included entries about my background knowledge, previous clinical experiences with adolescents with ADHD, reflections about how these might influence interactions with participants and the creation of codes and categories, and any personal feelings that arose before, during and after the interviews with each participant, as well as during data analyses.

As the constant comparison process continued and I reviewed analytic memos, journal entries, and within-case and cross-case diagrams, it became evident that the majority of participants perceived their current friendships as being different from past friendship experiences. In addition, I noticed a pattern of social isolation and exclusion as well as victimization by peers and former friends. While the main focus of the study was on current friendships of adolescents with ADHD, it became clear that I needed to consider how previous experiences with peers and former friends as well as the changing contexts of those experiences might have influenced friendship formation and maintenance in adolescence for youth with ADHD. In this phase of analysis, I identified 10 preliminary themes: 1) Trouble making friends; 2) Excluded by peers; 3) Bullied by friends; 4) Losing hope/giving up; 5) Having friends with similar interests; 6) Excluded by peers/accepted by friends; 7) Being different/having ADHD; 8) Transitions and

specialized programs; 9) Advice for others/support for adolescents with ADHD; 10) Understanding ADHD.

In this stage of analysis, I undertook peer checking and debriefing to test the validity of preliminary themes. Peer checking and debriefing are reflexive techniques whereby peers who are well informed about the research topic provide feedback about the researcher's analysis, including data conceptualization, category development, and emergent themes (Lincoln & Guba, 2000) and help the researcher understand his or her influence on the interpretation of the data (Hays & Singh, 2012). Peer checking and debriefing included meetings with members of my thesis committee, all of whom have extensive clinical experience and research backgrounds in ADHD, peer relations, learning disabilities, mental health, and qualitative methodology, as well as presentations to doctoral students who are actively involved in research studies of adolescents with ADHD and to school and clinical psychologists.

In the last stage of analysis, I used selective coding to integrate and refine categories and to develop a theoretical model that explains the information collected during the interview process (Charmaz, 2014). This process involved organizing data into three main conceptual themes and subcategories that were *grounded in the data* and reflected the participants' experiences, developing a core theme, and specifying the relationships between the core theme and other conceptual categories. The findings section outlines the three major themes and includes specific examples and rich descriptions of these themes. The discussion section presents the proposed theoretical model of mechanisms that influence friendships of adolescents with ADHD. Prior to the presentation of the findings and discussion of this study, strategies that I used to establish trustworthiness are outlined.

3.2.6 Establishing Trustworthiness

Lincoln and Guba (2000) identified four components that establish rigor and enhance the trustworthiness of qualitative study findings. Credibility, transferability, dependability, and confirmability have become standards for establishing trustworthiness in qualitative research (Charmaz, 2014; Hays & Singh, 2012). For the purposes of this study, trustworthiness was established through use of reflexive journaling, analytic memos and diagrams, peer checking and debriefing, triangulation, thick descriptions, and an audit trail.

To enhance the credibility, or “believability, of this study, I used memo writing and journaling to examine assumptions, refine codes, develop analytic categories, and document personal feelings (e.g., uncertainty, doubt, excitement) throughout the analytic process, from data collection to theory development. I remained curious about the participants’ experiences of friendship during the interview, review of audio recordings and transcripts, and throughout analysis. As previously described, I undertook peer checking and debriefing to understand how my clinical experiences and background knowledge might influence my interpretation of the data. I also used triangulation, or cross-checking of data by use of several perspectives or data points. Sampling and recruitment was done in a manner congruent with the aims of the study (Hays & Singh, 2012). Triangulation also occurred by collecting and analyzing different sources of data – demographic information, friendship questionnaires, semi-structured interviews, and parent and/or teacher ratings of peer relationships. Findings from ratings of peer relationships and the friendship questionnaire (i.e., AFQ) completed by participants for a previous study on adolescent friendships were compared to responses provided during this study. Data from each of these sources converged to provide a consistent picture of each adolescent. Lastly, triangulation occurred by reviewing main themes and proposed theory with existing literature on child and adolescent friendships as well as studies of adolescents with ADHD.

To address transferability, the degree to which findings are applicable to other individuals or settings (Lincoln & Guba, 2000), I used thick descriptions, which involves providing a detailed account of the research process and outcome, including the participants’ characteristics and research context, study methodology, data collection and analyses, and direct quotes and interpretations (Hays & Singh, 2012). To address dependability, the degree to which findings are genuine reflections of the participants being studied (Charmaz, 2014), I maintained an audit trail to provide evidence regarding the research process and analytical procedures. The audit trail includes a timeline of research activities, de-identified data (e.g., consent log, demographic information, transcripts), memos and reflexive journal, notes of peer debriefing meetings, documentation of open and axial codes, preliminary themes and categories, theory construction and literature review. Confirmability refers to ensuring that study findings are grounded in the data and the participants’ experiences (Lincoln & Guba, 2000). I incorporated reflexive journaling, analytic memos, peer checking, triangulation, thick descriptions, and an audit trail to enhance confirmability and trustworthiness of findings.

3.3 Findings

The primary purpose of this study was to gain an in-depth understanding of how adolescents with ADHD experience friendships and investigate the mechanisms and contexts that influence their friendships. Findings are organized according to three major themes, each with subthemes, that were identified in the analysis (Figure 3.1). The data supporting each theme and subtheme are presented in this section. The core theme, *Finding true friendships: The long journey from isolation to acceptance*, and proposed theory are presented in the discussion section of this chapter.

Seen as "Kind of Weird" at School: Social Exclusion and Isolation	Just Don't Bother: Prepared to be Friendless at School	Friends Like Me: Finding Acceptance
<ul style="list-style-type: none"> •Exclusion by peers •Bullying by friends 	<ul style="list-style-type: none"> •Having trouble making friends •Losing trust in self and others 	<ul style="list-style-type: none"> •Sharing similar interests and experiences •Experiencing acceptance and belonging

Figure 3.1: Main Themes and Subthemes

3.3.1 Theme 1: Seen as "Kind of Weird" at School: Social Exclusion and Isolation

For this theme, participants' experiences were categorized into two main groups: a) social exclusion by peers and b) victimization within past friendships. Most participants described negative social experiences with peers and friends in elementary school, which seemed to peak in middle school and decrease throughout high school. Chronic experiences of exclusion by peers were evident from adolescents' descriptions of negative events in childhood and early adolescence.

Exclusion by peers: when participants were asked about social difficulties adolescents with ADHD might experience, eight adolescents shared significant problems in past peer relationships. One female participant described her experience as follows:

That was always my issue was I experienced a lot of social exclusion during school, and not having friends and not being the social butterfly that everybody else was, I never got along with people really, and so it was always I had to go and ask a group to join 'cause I never had one.

Most participants recalled being initially excluded in elementary and middle school because they were perceived as different or “weird.” A male participant shared, “There’s lots of children that don’t understand, and they will look at a kid with ADHD and just think they’re weird, and they won’t hang out with them (...) They’re not like me’, so they don’t be with them.” A female participant shared,

Me and a bunch of other kids had to go down at lunch to take [Ritalin], and it was kind of embarrassing because some of the other kids were, like, the really bad kids at school, and then kind of, through elementary school, people saw me as the kid with ADHD, and they saw it as a bad thing (...) ‘cause they thought that I was... trouble.

Another adolescent girl recalled people “looking at me a lot differently” after she began wearing glasses and receiving special education support in primary school, noting “I had learning differences (...) I look differently with the glasses, and they considered it, like, a weakness, I guess.” Some participants described having the most difficulties in middle school. A male adolescent described his experience as follows, “Middle school was the toughest because that was when I was still hyperactive, and everybody else was more maturing, and so that time was very difficult. I think it’s the hardest time, as I see it, for kids with ADHD.” Similarly, a female participant noted, “I guess [in middle school] I showed a lot more signs of ADHD than normal – than now, so I was really hyper and everything, and I guess I just didn’t relate to other kids as much ‘cause I was seen as kind of weird at school.”

Being excluded by peers contributed to challenges in establishing positive friendships with same-age peers at school for many participants. This is not surprising since peer acceptance is associated with more opportunities to establish friendships (Newcomb et al., 1999). One adolescent girl described her experience in elementary school by stating, “I either had, like, friends who were younger or friends who were older than me, and they were just, like, people who would like... to talk to me, like every day, just so I didn’t get like, too – too alone.” In

addition to exclusion, participants shared being “bullied at school,” including verbal, physical and relational aggression, and provided several examples, such as peers “calling me bad names,” making “rude” or “racist” comments, and being “tripped,” “pushed,” and “hit with rulers.” One participant described the following experience in elementary school:

A kid broke – took my glasses away from me (...) and then throws them into the field (...) I was kinda crawling to get my glasses ‘cause I was looking for them and trying not to step on them (...) the guy just gets on my back... I just started trying to get him off, so I started hitting him ‘cause there was no other way. I couldn’t, like, push him off; he was on my back (...) and he finally gets up, and so I found my glasses, and I was like, ‘What the heck was that for?!’ [laughs] Like, I was so upset.

Bullying by friends: All nine participants described establishing friendships in elementary school, some at their school and others in their neighbourhood or recreational activities (e.g., skating); however, these friendships were often conflictual, and repeated bullying, including exclusion, harassment, and aggression, within close friendships was a common experience for seven participants. Adolescent females described being “singled out,” “pushed to do things,” and “bullied” by friends, as well as befriending girls who were “bullies to mostly everyone” or weren’t “the nicest person.”

Male participants shared negative experiences in previous friendships, and provided examples when they were not “treated nicely” or “got the rap for everything” after being caught getting in trouble with friends, as well as instances where a close friend “became very nasty” or “pulled a nasty trick (...) that I did not forgive them for.” Some participants noted that they were sometimes “confused” about their friends’ behaviour and did not recognize they were being bullied. A female participant shared, “I was friends with a girl who bullied me, but I didn’t realize it” while another noted, “sometimes they would be nice to me, and sometimes they would be really mean to me, so I was really confused – I didn’t know if they were my friend or not.” A male participant shared having multiple experiences in which he established friendships with males who seemed initially nice but later the friendships involved considerable amounts of conflict in grade 3, grade 5, “and grade 8, the same thing... and then grade 10, the same thing.”

Of clinical concern, several participants indicated that they were unable to dissolve conflictual friendships, even after they recognized friends were bullying them, because they “need friends” and it was better than being “alone at school.” A female participant shared, “I wouldn’t want to stop being friends with them because I was like ‘I don’t have any friends’ (...) so I kind of just

suffered through it.” Another female noted, “I kinda just put up with her kinda bullying me ‘cause she was the only person I knew.” One participant discussed the repercussions of his decision to sever ties with a previous friendship network after a bullying incident in grade 8 as, “I decided not to be friends with them anymore, and then realized that not having friends kinda sucks. It was a very difficult time.”

All participants perceived having fewer difficulties with peer relations and friendships in high school than in elementary and middle school. They described experiencing fewer incidents of social exclusion and victimization by peers, particularly after the initial transition to grade 9. One male participant indicated “in high school, it kinda smoothed out. There’s still some problems, but they’re minor, yeah” while another shared that he did not experience social exclusion or bullying at his high school, stating, “we all treat each other with respect and everything, so there isn’t undermining or put downs at our school.” A female participant perceived that “by high school... people mature” and bullying occurs less frequently. Nonetheless, most participants indicated that they experienced some difficulties with finding a peer group, which they attributed to attending academic programs outside their neighbourhood or without their close friends, rather than to being seen as different.

Some participants indicated that they established relationships with a few acquaintances to avoid being alone in high school. One male participant described “getting by” socially by joining “the SPED [special education] group just to get by, just so I wouldn’t sit by myself at lunch.”

Similarly, a female participant shared, “I have some acquaintances that are – you know, we’re friendly with each other, and we’ll do projects together in school (...) I’ll spend lunch with them just ‘cause that’s the way I like to do it (...) I have some acquaintances who I’m comfortable around” while another described having trouble finding “people I could call friends and could talk to during classes, do projects with.”

Regarding bullying and harassment in high school, participants perceived having more skills to cope with negative experiences. One adolescent boy described avoiding being bullied by “really keeping out of things.” A female participant perceived “high school was fine” because she “kind of toughened up a little bit” and “kind of stopped letting people bully me, in a way.” Similarly, an adolescent boy initially indicated that he “ignored” those who teased him and “did not get affected” but later shared, “I didn’t stop caring. It’s just that, people that bullied me, after they

realized that I didn't really react to what they were doing, they just stopped. So, I just didn't react to what they were doing." Another participant shared her perception of teasing or bullying by peers in high school as follows:

It affects you, but you try not to, like, show it. You trying to be like a joke, and, like, just be like, 'Ah, ha, ha, whatever' 'cause, like, the thing is you can't – like, within high school, you can't always, like, be like honest, how you feel. So, like, you have to sometimes, like, be strong, and just be, like, hold in there. Like, everyone knows that in high school.

All participants denied experiencing bullying or harassment in their current friendships. They described engaging in friendly teasing with their current friends (described in Theme 3: Finding Friends Like Me). One adolescent male noted, "If I actually tease them or trash talk them, that means that I actually know they feel comfortable with it, or like I know they won't get mad" while another shared, "we tease each other constantly but (...) he's never tried to offend me and I never try to offend him (...) we're never really mean to each other." Similarly, a female participant indicated that she and her close male friend enjoy exchanging "sarcastic jokes" while another shared she engages in friendly teasing, "I tease her and she teases me, so it's equal."

3.3.2 Theme 2: Just Don't Bother: Prepared to be Friendless at School

For this theme, participants' experiences were divided into two subthemes: a) having trouble making friends and b) losing trust in self and others. Eight participants described becoming discouraged by their challenging peer relations and difficulties establishing and/or maintaining positive friendships in school. In addition, they provided rich descriptions of their experiences and acknowledged lingering difficulties in adolescence. One male participant denied ever having difficulties getting along with peers at school. While he described high school being "hard at first" because he "didn't know anyone," he noted meeting someone within "a few months." Overall, this participant's descriptions of friendship and social relationships were brief, and he had trouble recalling specific events. For instance, he shared that "elementary school was the most difficult" for him socially; however, he was "not too sure why" and did "not remember that far back."

Having trouble making friends: Participants identified several barriers that interfere with establishing friendships in childhood and early adolescence, including having some lags in social skill development and trouble navigating social situations, as well exhibiting problematic

behaviour (e.g., impulsivity, inattention), and struggling to manage multiple demands. It is important to note that there was no evidence of self-enhancement of participants' functioning in the interviews. A male participant described difficulties making friends, as follows:

Every time I've tried to make a friend with someone, I failed epically... I did not know how to start it – let's say, what to do to start or to initiate, let's say, a conversation even (...) It started in kindergarten when I thought that, in order to make friends, you have to annoy the person enough that they'd pay attention to you (...) I didn't really understand what it took to be friends with someone.

Similarly, a female participant described having chronic problems in social interactions with peers in childhood as follows:

I never grew up with proper friendships. I was bullied in school. All of the people I thought were friends weren't really good friends (...) I think that's part of my issue... I never grew up with proper friendships and never learned proper social interactions as a kid.

A few participants described having difficulties navigating social situations and “figuring things out” on their own. One adolescent stated, “I'm not very good at reading people. So, if there's a problem, they kinda need to tell me. I won't figure it out on my own.” Other participants mentioned having trouble managing multiple demands. For instance, a male adolescent noted that “trying to multitask between school and friends was hard – it was impossible.”

Participants also attributed their difficulties to acting “weird,” doing “things randomly” and saying “weird things,” as well as “getting distracted or talking too much” or often having “a lot of trouble keeping one sentence [in mind] without pausing.” A female participant described problems during conversations, noting, “I have to keep retracing where I was going, and think it over, and kind of say, ‘Okay, what was I doing? What was I saying?’ (...) I'll switch tracks completely at the drop of a hat.” Like other participants, she perceived these difficulties to be irritating or upsetting to peers and friends, noting “a lot of people find that hard to deal with (...) they'll get really confused and sometimes upset.” Another participant indicated that “since people with ADHD tend to get more distracted about things, they might make their friends think that they're not paying attention when they're trying really hard to.” An adolescent male emphasized, “I definitely did some impulsive things which pissed people off.”

Losing trust in self and others: chronic difficulties with peer relations and friendships contributed to feelings of hopelessness and becoming resigned to being friendless for seven of the adolescents. A female participant described her feelings as follows:

I was into the idea of having friends, I was, but, like, I told myself, if things aren't going to go well, be willing to be alone... if things aren't gonna go well, just get – just be willing to not bother with it because you're not gonna force people to like you, and you're not gonna force people to hang out with you. So, if things end up going south, just don't bother; just focus on your studies.

A male participant shared:

I just couldn't wait for grade eight to be over and go to high school. And then after that, I didn't really try to be friends with anyone because I didn't trust myself to make good friends (...) 'cause I made friends with someone who... was not someone I wanted to be friends and then I realized that I was making friends with a lot of people who were very mean – didn't like that either – and (...) I was not the best at choosing people who were nice people, friendly people, or trustworthy people (...) I stopped looking for friends.

In addition to losing confidence in their ability to make friends, as a result of previous negative experiences, some participants described becoming unable to find peers who were honest in their intentions. For instance, one adolescent girl recalled encountering “quite a few instances where people are dared to come talk to me ‘cause nobody does” while another expressed her wariness by saying, “Is there nobody I can trust in the friendship area? (...) I always kind of ended up getting bullied by my friends.” As a result of these negative experiences, some participants described becoming “anti-social” and being “guarded” or “acting cold” around peers in high school, and “not [letting] people get too close” at school. A female participant explained that she avoided interacting with peers in high school because she did not want to be “too open to people hurting me.” Based on their descriptions, it seems that chronic negative experiences with peers and past friendships caused significant emotional distress, including a sense of isolation and despair, for many participants. In addition, in an attempt to protect themselves from further emotional distress, some adolescents attempted to make peace with their social challenges and resigned themselves to being without friends. Furthermore, a few participants avoided social interactions, which further isolated them and likely increased their difficulties establishing friendships. As one female participant noted, “I’m very distrusting of people, and I think that it gives a bad image to other students, of me, and it makes it harder for them to talk to me. So, finding friends that I could trust was more difficult.”

3.3.3 Theme 3: Friends Like Me: Finding Acceptance

The third major theme in this study encompasses the participants' current friendship experiences, including how they have established and maintained these friendships, as well as how they managed any lingering ambivalence with friendships in light of past challenges and negative experiences. All participants provided examples of finding *true friends* in adolescence, and subthemes include a) sharing similar interests and experiences and b) experiencing acceptance and belonging. All participants described meeting like-minded peers and establishing reciprocal friendships with peers within which they perceive being accepted and able to "be myself" without being rejected. Some of these friendships were established with new peers and others with previous acquaintances or friends where relationships had been interrupted by transitions, such as moving to different schools, or by differing interests in late childhood and early adolescence. When asked about their friendships in adolescence, all nine participants indicated having close same-sex and cross-sex friends, ranging from one to six, and maintaining infrequent to regular contact with friends. In addition, participants shared strategies that they have used to manage differences and resolve disagreements with friends, as well as increasing attempts to monitor the impact of their behaviour on their friends and vice-versa.

Sharing similar interests and experiences: Similarity and proximity are important for friendship formation (Epstein, 1983; Hartup, 1996). When describing how they developed their current friendships, participants shared that being in the same social environment, primarily at school and their neighbourhood, helped them to form new friendships in adolescence. Two participants established close friendships with current friends in middle school and seven participants met their current closest friends in high school. This is not surprising given that adolescents often choose friends from within a "restricted range" of choices, such as school, neighbourhood, or activity groups (Hartup, 1996). For eight participants, being in the same class as their friends was important in establishing new friendships. One male participant noted, "in my French class, I sat beside him and we got to know each other very well, and then became great friends." A female participant shared, "that's kind of where the relationship started – sitting next to each other in class." Other participants indicated that having similar schedules, including breaks and lunch together, was also important. One participant indicated, "even though we're at different classes, our schedules are the same" and another emphasized, "they have a lunch with me, so I can see them a lot more, and I guess we kind of bonded a lot more over lunch."

When discussing their frequency of direct contact outside school by phone or in person, some participants described challenges resulting from conflicting schedules and competing demands in adolescence, including entering the workforce. One participant indicated, “the only one I see often is Sally, and that’s because we live in close proximity (...) It’s always very difficult to see the others.” Another one shared, “usually he’s working, and I’m still on the job hunt (...) He was doing summer courses this year, and last year I did summer courses so I never got to talk to him.” Most participants described getting together with their friends at each other’s house, and going to the mall, restaurants, and movies. Regarding indirect contact, four of nine participants reported they rarely interact with close friends online (e.g., social media, chat rooms). Five participants reported interacting with at least one close friend online regularly, and these participants seemed to perceive online communication as helping them to maintain their current close friendships. One participant shared, “we talked a lot online, as we still do, and so that really kept us in touch (...) even though we went to different schools and didn’t see each other every day” while another noted, “every day we normally skype, and we start out by doing homework, and we normally finish pretty fast, and then we just talk about either cool stuff that he found out online, or either the [robotics] club – maybe some ideas we have about what we can do next for it.” Eight of the nine participants indicated regularly “texting” friends, individually or in “group chats.” A female adolescent explained, “iMessage, or just texting her, ‘Do you want to come over? I have something to talk to you about’.” Another shared, “When you see something – not even at school – a commercial or something, and you text them to tell them about it...”

Friendship selection is also based on similarity of personal characteristics and interests (Hartup, 1996). All participants used phrases such as being “similar,” “interested in a lot of the same stuff,” and having “a lot in common” and “the same group of friends” when describing how they established and maintained their current friendships. All participants perceived similarity of personality and interests as helping them to enter new relationships, which led to close friendships, in adolescence. One participant noted, “both of them kinda look like me – it’s weird – both short and have black hair (...) we understand things in the same way, so it’s more of an academic friendship (...) it’s more of a challenging friendship.” In addition, most participants described their friends as having “similar issues” and as having “been through things that I’ve been through,” which they perceived as helping them to “relate to each other” and develop meaningful connections. One female participant shared, “because of our vision problems, we

would always sit together and we might ask each other for help with an assignment or something... we started having lunches together, our lockers were close by, and so (...) we were kind of put together.” Another described her experience as follows, “It’s really we connect on the way of we both had hard family lives, and we can both understand it without being a part of it, and that’s one big area that we connect on (...) She’s also got similar issues to mine, so she deals with anxiety and depression and issues such as those, as well as social issues.”

Several adolescents reported having friends with ADHD, which they perceived as “nice” or helpful because they “understand what it’s like to have ADHD.” A male adolescent shared that having friends with ADHD “made it more comfortable talking to them, so I didn’t have to watch out what I’d say that much (...) it helps you stay a little bit more off guard, and when you’re on guard, you get, I guess, pissed off faster; you are more insecure.” On the other hand, participants discussed that having friends with ADHD or other behaviour problems can be stressful and potentially harmful. An adolescent male described his experience as follows:

[In middle school] me and him, we’d be notorious with teachers for ‘not pairing these two together’, you know, ‘they’ll be disruptive, they’ll...’. Like, once a month, we’d always be in the office for something... The time when we started getting in trouble was also the time when Noah joined in; and when Noah came, that just fuelled the fire.

A female participant shared feeling annoyed and awkward when two of her friends talk about “doing drugs” because she doesn’t “want to hear about it” or “do it.” A male adolescent noted that, in his early high school years, he was friends “with a bunch of potheads” and knew that “hanging out with them was probably not the best idea.” He further explained that he “didn’t really care” because “grade 8 was not fun” and he was “lonely” because he had “no friends.” Another participant highlighted the following:

People with ADHD, they usually want to fit in... if there’s a group of say fifty kids that are doing really bad things, and there’s a group of three kids that are doing homework in the library, they’ll usually do the thing that more people are doing because they think they’ll get more friends, so they go in that path.

Experiencing acceptance and belonging: All participants described their friends as “kind of easy to be around” and being able to “be real” and “actually speak my mind,” and share their thoughts, opinions, aspirations, and challenges within their current close friendships. In addition to talking about topics such as school, politics, TV shows and hobbies, and their future goals and aspirations with their friends, all adolescents described reciprocal sharing of personal

information with one or more of their close friends. One participant described close friendship as “when you want to tell them your secrets (...) about their family and stuff that’s happened to them in the past (...) and weird stuff that happens to them.” An adolescent male noted that one of his close friends talks to him about “intimate things that we wouldn’t talk to anyone else about.” Similarly, an adolescent female shared that her close friend is “just like another sister, and yeah, definitely, I tell her things that I wouldn’t tell other people.” Another participant noted, “I’m also allowed to talk about personal things with him, and (...) we share a lot of same feelings about things... and, I guess, I’m just able to really be myself around him.” A third participant said, “he’s the one I actually speak my mind to ‘cause I speak to him the most, so yeah, everything is kind of open there.”

Some participants discussed having conversations regarding sensitive issues, including gender identity and sexuality, with their friends. One participant shared having a close friend who identifies “as a boy but they were born a female” while another said, “I’m bisexual, and I don’t ... no one else in the school knows that, so I tell him that (...) we have a lot of conversations about other stuff that sort of stem from that, that I wouldn’t have from other people because of obvious reasons.” Participants noted the importance of being respectful and trustworthy, treating others kindly, avoiding “making up rumours” or saying things behind each other’s back, and “standing up” for friends within the context of close friendships, as well as having similar expectations of their close friends. Sharing personal and sensitive information with close friends, which requires establishing trust, was true even for participants who described themselves as having “trust issues” and “being guarded,” following chronic negative experiences with peers and friends in childhood and early adolescence. One participant described how she was able to establish a close friendship in adolescence, despite lingering hesitation, as follows:

It was kind of good to have a friend that I knew that I could trust, and that just kind of helped me still be able to have friendships. I kinda have some trust issues, so it was a little slow going.

Based on their descriptions, participants perceived their close friends as providing both instrumental and emotional support. Adolescents described “going out of [their] way” to help close friends in specific ways, such as lending money to buy food and helping friends with schoolwork by “printing out an assignment,” “help [them] organize materials,” and “remind [them] to study.” Participants described receiving similar assistance from their friends. One

adolescent female shared, “we were helping each other with some subjects, and she was always so helpful... I guess I could say I was helpful for her the same way.” Beyond giving and receiving instrumental help, participants described feeling accepted and supported by their friends, particularly during challenging times. One participant’s experience of support was described as, “when I’ve been really depressed, she’s come over to my house, even though I told her that she doesn’t have to, and she has anyway. So, I guess that knowing that she’ll be there for me is a really good thing that I like about her.” Another participant echoed the importance of having supportive friends as follows,

I made sure to, like, get friends who not only will – like, are nice and are willing to help with any problem, but are willing to also listen and consider your problems – like, to try ... to try to relate and see if they could, not only help, but actually make you feel better about it.

Participants also described how they cope with differences in personality, preferences, or opinions and manage disagreements in their current friendships. Regarding contrasting interests, one participant expressed, “I think, having the differences we have, it kinda makes things more interesting (...) we can live with the differences in – within each other because, like, it’s part of what makes everyone who they are.” Several participants indicated that “sometimes people get into arguments with their friends” and they “just figure out a way to resolve a problem” because “in a friendship, you’re supposed to be kind to each other, and even though you might get into disagreements and whatnot, you guys can move past that and still be friends.” In terms of resolving conflicts, a female adolescent noted, “They’re usually little things. We just kinda fight our way through it, even though it’s not really a fight” while an adolescent male shared “usually one of us gets over it (...) and like, it basically comes into a joke afterwards about the whole thing.”

All participants have established a reciprocal and supportive relationship with at least one of their close friends. Like most adolescents, participants also experience challenges in their close friendships. For instance, one adolescent male shared, “to actually get him to do stuff that he doesn’t want to do, it’s hard... eventually, after finally I convince him to go, he’ll go, and then he’ll enjoy it, but it’s ‘his way or the highway’ ... sometimes we just don’t even bother hanging out.” Another male expressed ambivalence about his friend’s varied interests by stating, “If he didn’t distract me from certain things that I had to do, by saying ‘Oh, look at this! Look at that!

Look at that!', although it is kinda fun to do that." A female participant noted, "sometimes she's a little too bold and she's too confident, and sometimes she sort of mentions things from what she was doing a few years ago, and it's uncomfortable because ... I don't want to know about that." Another participant shared that she manages uncomfortable situations with a close friend as follows:

I make excuses, but I feel really bad doing it, but I don't really want to say to her that I need space or 'I don't feel good; leave me alone' (...) I think she often takes it as an insult that she can't help (...) I feel guilty if I say no (...) so I get upset often, when I'm not really wanting the hyperactive and the in your face happiness, when I'm not feeling it. So, she's a lot different, but can often make me happier when I'm in need of it, just after a little bit of hanging out.

Participants also shared keeping some information private and being mindful of what information they share with their close friends, noting that "it depends on the person, really (...). It also depends on the scenario of the situation" and that "you have to build up trust." A female participant described how she determined whether she could trust friends by saying, "I tend to give them little... little pieces of information about me, and if I see that they're not going around and telling other people that, and they're being discreet with it, then I'll escalate it and kind of tell them more things." A male participant shared, "if you meet someone who's not that good of – who's a friend but not that good a friend, then it might take a while for him to trust you and share things."

All participants in the present study established close friendships with at least one youth who had ADHD, learning differences, or socioemotional difficulties and/or who had also struggled being accepted by their peers and establishing *true* friendships in childhood. Overall, it seemed that these friendships were supportive and enhanced the participants' sense of belonging, which seemed to positively contribute to their overall adjustment. The following describes a female participant's experience with befriending other youth with difficulties:

The way my friends are --- like, we're weirdos, but we're very accepting of each other (...) Every person in that group has been bullied, so we're not only very accepting; we know what life – what people can be like. We've seen every side of a human being. We know people can be very kind and generous or very cruel and cold, so we know, like, the differences, we know how to cope with this (...) it's a weird group, it really is. We're just always there for each other.

While two male adolescents described engaging in maladaptive behaviour (e.g., skipping class, using drugs) in past friendships, no participants described this within their current close friendships. Moreover, one participant shared actively avoiding a previous friend as follows:

I was reluctant to be friends with him again because he – before grade eleven, I was more interested in smoking weed and doing weird friend stuff, as opposed to doing school (...) when he left in grade eleven, I stopped, and I started doing really, really well in school – a complete turnaround – and I like it. I enjoyed school more than I enjoyed it beforehand (...) when he wanted to be friends between grade eleven and twelve (..) I didn't really want to be friends with him anymore.

3.4 Discussion

The aim of this study was to explore the experiences of friendship from the perspective of adolescents with ADHD and investigate the mechanisms that influence their friendships. The adolescents in this study provided rich data that described their social experiences with peers and friends. They were forthcoming when sharing their perceptions of previous and current friendships and openly discussed their difficulties. Previous research has indicated that children and youth with ADHD tend to overestimate their competence (see Colomer, Martinussen, & Wiener, 2016 for review), including their estimation of social competence and perceived acceptance by peers (e.g., McQuade et al., 2011). The adolescents in the current study, however, demonstrated insight regarding their social competence and provided multiple descriptions of challenges in their social relations with peers in childhood and adolescence. It is possible that using an interview, rather than rating scales typically used to evaluate social or behaviour competence and/or specific social skills, enhanced the participants' ability to provide reliable reports (Varma, 2013) about their competence and social functioning. By age 17, adolescents with ADHD do not differ from adolescents without ADHD in their estimation of social competence (Hoza et al., 2010). Additionally, adolescents with and without ADHD exhibit similar social perspective-taking when presented with hypothetical scenarios involving peers (Timmermanis, 2015). Thus, it is possible that as a function of development, participants in this study demonstrated insight and provided specific examples about the nature of previous and current challenges with peer relations and friendships. Lastly, it is plausible that adolescents were better able to reflect on past challenges because they have experienced acceptance, support, and belonging in their current friendships.

The remaining section presents and discusses the core theme, *Finding true friendships: The long journey from isolation to acceptance*, and a proposed model to explain the experiences of friendship from the perspective of adolescents with ADHD. Next, I outline participants' opinions regarding potential helpful supports for children and adolescents with ADHD who struggle with peer relations and friendships. Then, I discuss study limitations and conclusions.

3.4.1 Core Theme and Proposed Theory

In accordance with grounded theory methodology, I developed a model to explain and integrate findings from the three main themes discussed in the previous section (see Figure 3.2). I called the core theme *Finding true friendships: The long journey from isolation to acceptance*. My analysis revealed that previous experiences with peers and past friends, as well as the contexts in which these occurred, influenced friendship formation and maintenance in adolescence for participants in this study. As previously noted, friendship refers to a dyadic relationship between two individuals while peer relationships, namely acceptance and rejection, refer to the social status of an individual within a larger group (Bagwell & Schmidt, 2011). I suggest that the friendship experiences of adolescents with ADHD are influenced by the complex reciprocal interaction between individual (e.g., gender, age, ADHD) and contextual factors, including peer and friend characteristics, as well as family and school environments, across developmental stages. The proposed model is based upon the findings presented in the previous section and is informed by the literature on childhood and adolescent friendships, peer relationships of children and adolescents with ADHD, neuropsychological deficits and comorbid disorders associated with ADHD, developmental progression of ADHD symptoms, and systems-oriented theories of development.

The model I propose considers the interplay between the unique characteristics of youth with ADHD and peers with whom they interact at different developmental stages (i.e., childhood, early vs. late adolescence), as well as how the changing nature of the contexts in which they function (e.g., elementary vs. high school) impacts the peer relationships and friendships of youth with ADHD. As such, the proposed model fits with Bronfenbrenner's bioecological theory of human development, as conceptualized by the Process-Person-Context-Time (PPCT) model (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006).

Figure 3.2: Finding true friendships: The long journey from isolation to acceptance

Bioecological theory posits that human development results from the complex and reciprocal interactions between the individual and the environment(s) in which he or she functions. The PCCT model proposes that *proximal processes*, or interactions between an individual and the environment, that occur over time are key factors in human development (Bronfenbrenner & Morris, 2006). The influence of proximal processes on development vary as a function of the personal characteristics that an individual, or *person*, brings to any social situation (e.g., age, gender, social skills, socioeconomic background), the *contexts* in which the individual spends considerable amount of time engaging in these interactions (e.g., peer group, home, school), and the *time* an individual spends in these environments across developmental stages (Bronfenbrenner, 2005; Bronfenbrenner & Morris, 2006).

Consistent with previous research on children with ADHD (e.g., Hoza et al., 2005; Marton et al., 2010; Mikami & Hinshaw, 2006; Normand, 2011; Wiener & Mak, 2009), participants in this study described common experiences of social rejection, isolation, and victimization by peers, as well as problems with friendships, in childhood and early adolescence (*Theme 1: Seen as “kind*

of weird” at school). Most participants recalled being excluded and rejected in elementary and middle school because they were perceived as being “different,” “weird,” or “bad.” Adolescents in this study attributed social exclusion and victimization by peers in childhood to their difficulties with attention, hyperactivity, and impulse control, underdeveloped social cognition and social skills, unique learning needs which required special education support for several participants, and medication regimen. Participants shared feeling embarrassed and emotionally distressed as a result of these negative interactions with peers, and they perceived their challenges as uncontrollable and pervasive. This is consistent with previous studies (e.g., Shea & Wiener, 2003; Wiener et al., 2012; Wiener & Daniels, 2016) which found that children with ADHD experience social exclusion by peers as hurtful, attribute exclusion and victimization to their ADHD and related symptoms, and perceive their most problematic behaviour and unique challenges as uncontrollable, pervasive, and stigmatizing. Consistent with normative trends (see Mishna, 2012 for review), adolescents with ADHD in this study reported that their experiences of victimization by peers peaked in grades 7, 8, and 9.

Being excluded and rejected by peers contributed to challenges in establishing positive friendships with same-age peers at school for many participants. Research on friendships of children with ADHD has established that they experience significant challenges in establishing and maintaining friendships, have lower quality friendships, experience more conflict, and are more likely to befriend other children with learning or behaviour problems than children without ADHD (e.g., Bagwell et al., 2001; Hoza et al., 2001; Marton et al., 2012; Normand et al., 2013). The friendship experiences during childhood of the participants in this study are consistent with the existing research. In elementary and middle school, they often befriended other children who had learning or behaviour difficulties and/or who were also excluded by the larger peer group. They reported that, in childhood and early adolescence, their friendships were often conflictual, in which repeated bullying, including exclusion, harassment and aggression, within close friendships was a common experience. Both male and female participants described incidents that involved relational aggression (i.e., behaviour that is intended to harm someone by damaging or manipulating relationships with others; Crick & Grotpeter, 1995), as well as occasional incidents of physical aggression. Consistent with research on victimized children (e.g., Mishna, Wiener, & Pepler, 2008), participants expressed feeling confused when bullied by close friends in childhood. Of clinical concern, several participants indicated that they were

unable or unwilling to dissolve conflictual friendships in elementary and middle school, even after they recognized being bullied by friends, because they did not want to be friendless. Some adolescents with ADHD in this study indicated that being bullied by close friends in childhood and “suffering through it” was better than being alone in school. This is consistent with Dane’s proposition that children who have limited social options remain in friendships in which they are victimized because they might feel they need these friendships (Dane, 2001 in Mishna, 2012).

Adolescents with ADHD in this study identified several barriers that interfered with establishing friendships in childhood and early adolescence, including having some lags in social skill development and challenges navigating social situations, as well exhibiting problematic behaviour (e.g., impulsivity, inattention), and struggling to manage multiple demands. Many of the difficulties making friends described by participants are consistent with empirical findings (de Boo & Prins, 2007; Gresham et al., 2010; Marton et al., 2008; Mikami, 2010; Sibley et al., 2010). A new and discouraging finding of this study was that chronic negative experiences with peers and within friendships in childhood for youth with ADHD resulted in significant emotional distress, including a sense of isolation and despair, for many participants. Perhaps in an attempt to protect themselves from further emotional distress, some adolescents seemed to attempt to *make peace* with their social challenges and resigned themselves to being without friends (*Theme 2: Just don’t bother*). Several adolescents in this study reported preparing for friendlessness primarily by focusing on their studies or after-school activities (e.g., competitive skating). Two participants, one male and one female, reported seeking friendships with strangers online or with deviant groups. A few participants described avoiding social interactions with their peers in high school, which further isolated them, and likely interfered with their ability to have positive peer relations and establish close friendships at school in adolescence.

Despite the common experience of becoming resigned to friendlessness during their childhood, adolescents with ADHD in this study perceived having fewer difficulties with peer relations and friendships in high school (*Theme 3: Friends like me*). Participants described fewer incidents of social exclusion and victimization by peers, particularly after the initial transition to grade 9. Some reasons provided included exhibiting fewer or “less severe” symptoms of ADHD, their own and their peers’ maturation, and their peers becoming more preoccupied with the increasing academic and extracurricular demands (e.g., sports, employment) of adolescence. All participants perceived that finding like-minded peers in adolescence, who shared similar personal

characteristics, interests, and experiences, facilitated the development of their friendships. All participants established at least one close reciprocal and supportive friendship in adolescence with like-minded adolescents who they met primarily at school or in their neighbourhood. These findings are not surprising because similarity and proximity are important for friendship formation (Epstein, 1983; Hartup, 1996); however, they are promising given the chronic difficulties with peer relations and friendships in childhood for youth with ADHD. Most participants noted that high school provided new opportunities for them to meet like-minded peers because secondary schools are “usually bigger” and “have more people.” As previously discussed, receiving special education support in elementary school was considered a reason for social exclusion and victimization by peers. For participants with ADHD and co-occurring learning disabilities who required intensive educational support in high school (e.g., core class), however, enrolment in special education classes in secondary school seemed to provide these adolescents with a protective environment to meet youth with whom they could relate and later establish close friendships. On the other hand, adolescents in this study who had direct (e.g., learning strategies class) or indirect (e.g., accommodations, access to quiet space for test taking) support a few times a week or “as needed” and those for whom their diagnosis of ADHD was in itself not deemed as sufficient to receive formal academic assistance seemed to have more difficulty finding a supportive peer group and establishing friendships in high school. In fact, two of these participants did not establish close friendships until grade 11 and two remained friendless at school throughout high school. One participant, who completed a French immersion program in high school, shared that she often wished to have friends with whom she could talk or do projects at school and expressed feeling concerned about being socially isolated in the fall when she planned to complete further courses in English prior to applying for a post-secondary program.

All participants interacted with their friends outside school (e.g., at each other’s houses, malls, restaurants, movies); however, they noted that conflicting schedules and competing demands in adolescence often interfered with the frequency and amount of time they spend with their friends outside of school. For adolescents with ADHD, who had at least one close friend in the same school, time spent with friends in school, during lunch and “spare periods” seemed to fulfill their needs for enjoyable companionship (Savin-Williams & Berndt, 1990). Somewhat surprisingly, almost half of the adolescents with ADHD in this study reported they rarely interact with close

friends online (e.g., social media, chat rooms). Reasons included their friends having limited access to a computer or internet at home, scheduling conflicts, and avoiding online social media (e.g., Facebook, Instagram). Most participants indicated having a preference to use texting messaging and/or individual or group chats (e.g., What's App) to communicate with friends, which they perceive as helping to maintain their connection with their current close friends.

Although all participants in this study established at least one reciprocal and supportive friendship in adolescence, they also acknowledged that they experience challenges in their close friendships, which primarily result from differences in personality, preferences, or opinions among their friends. Most adolescents in the current study shared age-appropriate strategies that they use to manage differences and resolve disagreements with friends, as well as increasing attempts to monitor the impact of their behaviour on their friends and vice-versa. Longitudinal research on youth with ADHD has found that impaired social skills were associated with subsequent peer rejection, and peer rejection was associated with subsequent impairment in social skills (Murray-Close et al., 2010). Thus, children with ADHD exhibit early deficits in social perspective taking (Marton et al., 2009) and social skills (Hoza et al., 2005) that interfere with their positive social relationships (e.g., peer acceptance, supportive friendships) and increase the likelihood of negative social relationships (e.g., peer rejection, bullying, conflictual friendships; Marton et al., 2012; Mikami & Hinshaw, 2006; Wiener & Mak, 2009). This, in turn, reduces their opportunities to further observe, practice and develop appropriate social perspective taking skills and social skills (Timmermanis, 2015). This reciprocal interaction seems consistent with the mechanisms and processes that influenced friendship development of adolescents with ADHD in the current study. Within the context of their current friendships, participants were able to further practice and develop their social perspective taking and social skills. It is also likely that, as a function of development, the social perspective taking and social skills of participants improved throughout adolescence, which, coupled with a gradual decrease in impulsive and hyperactive symptoms (Barkley, 2015), probably contributed to development of positive friendships and fewer instances of peer rejection. Although this information is based on self-report, findings from this study support the notion that the behaviour regulation and self-awareness skills, including social perspective taking of youth with ADHD in situations that involve peers (Timmermanis, 2015), improve in adolescence.

Theoretical and empirical studies suggest that having a reciprocal friend in adolescence is associated with higher self-worth and positive adjustment in young adulthood (e.g., Bagwell et al., 1998). On the other hand, friendships can contribute in both positive and negative ways to well-being and adjustment (Bagwell & Schmidt, 2011). Specifically, empirical studies have established that some interactions between friends might contribute to each other's antisocial behaviour (e.g., aggression, delinquency, substance use) or increase in depressive symptomatology in youth with internalizing disorders (e.g., Dishion et al., 1996; Marshal et al., 2003; Rose, 2002). It is therefore important to note that all participants established close friendships with at least one youth who had ADHD, learning differences, or socioemotional difficulties, or who had also struggled with being accepted by peers and forming friendships in childhood. Three female adolescents with ADHD and co-occurring depression and/or anxiety reported developing close friendships with other youth who also struggled with internalizing difficulties, as well as issues related to family conflict. Nonetheless, findings suggest that the friendships of adolescents with ADHD in this study were supportive and enhanced the participants' sense of belonging, which seemed to positively contribute to their overall sense of social competence and general well-being.

For adolescents in this study, the benefits of having a close friend with ADHD, learning, social, and/or emotional challenges seemed to outweigh the problems that might emerge in the context of these friendships (e.g., increased anti-social behaviour, worsening of depressive symptoms). All participants provided examples of receiving and providing instrumental support (e.g., homework, money for food) in their current friendships, and most importantly, they perceived being accepted and highly supported by their friends, particularly during challenging times (e.g., teasing by a peer, conflicts with teachers, arguments with parents, depression episode). Participants also seemed to have become more aware of their personal preferences for social interaction, and they were better able to communicate these to adults in their lives (e.g., parents, teachers) and to their friends. For example, several participants noted that they prefer having a few close friends because some of them consider themselves to be "introverts" and need "alone time." In addition, adolescents with ADHD noted having ongoing struggles managing competing demands simultaneously, whether it is multitasking between school and friends or balancing the needs of multiple friends; thus, many adolescents with ADHD in this study indicated that having only a few friends is "very manageable" and "a lot easier to navigate."

3.4.2 Potential Supports for Youth with ADHD

Adolescents with ADHD in this study had varied opinions regarding supports for children and youth who struggle with peer relations and friendships. Overall, participants did not perceive the support they obtained from school personnel or mental health professionals as helpful in managing peer relations or establishing friendships. Similar to findings by Wiener and Daniels (2016), adolescents with ADHD in this study suggested that parents and teachers must be informed about ADHD, so they can be accepting and tolerant, as well as better able to support youth with ADHD effectively. Regarding school, some participants reported having “the hardest times” at school when “teachers didn’t understand” ADHD, had negative perceptions of children with ADHD as “trouble makers,” or focussed exclusively on academic development and overlooked their social struggles. A few participants expressed a desire for teachers and school personnel to be more attentive to their social and emotional needs rather than solely on their academic achievement. One female adolescent shared, “education is important, but school should be about life lessons and trying to get a person through life.”

All adolescents with ADHD in this study perceived parental support in childhood and ongoing guidance throughout adolescence as important. Most participants reported their parents as having “a pretty good understanding” of ADHD, and also noted that parents, particularly mothers, sought professional support to address their children’s symptoms of ADHD. The most common treatment shared by participants was pharmacological intervention, followed by occasional meetings with psychiatrists or psychologists. According to adolescents in this study, the focus of these meetings was response to medication and academic challenges, not social development or peer relations. Several adolescents shared that their parents provided “opportunities to make friends” by accessing informal supports, such as enrolment in organized sports (e.g., skating, swimming) and arts (e.g., music, painting) activities and community organizations (e.g., girl scouts). They found that these activities sometimes facilitated friendships in childhood because they could meet children with similar interests with whom they spent “so much time together.” They also noted that it was helpful for them to interact with same-age peers outside of school when their parents arranged playdates or facilitated their participation in birthday parties during childhood. As adolescents, some participants found that their parents were not as directly involved in their social interactions with peers or friends. They indicated that their parents mostly offer guidance about who they choose as friends. Advice to parents of adolescents with

ADHD included actively communicating with their children, being explicit and providing frequent reminders about “what’s right and wrong,” keeping “a better eye” on their children, providing guidance regarding who they choose as friends, and getting to know their adolescent’s friends and their parents. Some adolescents noted that knowing their “parents see something good” in their friends helps them to maintain their current close friendships.

Some female participants described high levels of family conflict and parental stress due to their academic performance in high school. They described being “worn out” by their attempts to improve their performance at school (e.g., going to school early) and feeling “even worse” when their parents were “always complaining” about their grades. One adolescent described living in a household with high conflict, in which she “never experienced” her parents being “open and non-judging,” which contributed to feelings of isolation at home and school. The experiences described by these female adolescents are consistent with research on parenting stress and parent-adolescent conflict in families of youth with ADHD (e.g., Markel & Wiener, 2014; Theule, Wiener, Jenkins, & Tannock, 2013; Wiener, Biondic, Grimbos & Hebert, 2016). While speculative, it is possible that being socially isolated and struggling academically at school, coupled with stress resulting from frequent parent-adolescent conflict and family discord contributed to emotional distress and the development of co-occurring anxiety and depression for some of the female adolescents with ADHD in this study.

3.4.3 Limitations and Implications for Future Research

This study has some limitations. The sample comprised 9 adolescents with ADHD, ages 16 to 18, all of whom lived in a large urban area in Canada, and 7 had English as a first language. Caution should be taken with respect to the transferability of the proposed theory to other adolescents with ADHD. The experiences of participants in this study might differ from those of adolescents from diverse linguistic and cultural backgrounds or who live in rural communities. In addition, there were more female than male participants (5 females; 4 males), which is inconsistent with the higher proportions of males with ADHD in the population (Barkley, 2015) and 8 participants had at least one comorbid diagnosis, including learning disability, anxiety and/or mood disorders, Tourette’s Disorder, and vision impairment. Although the sample included youth with co-occurring learning and mental health disorders that are common among individuals with ADHD (Barkley, 2015), it is possible that some of the challenges they

experienced with their peer relations and friendships in childhood and adolescence were compounded and/or influenced by these co-existing learning and mental health difficulties. A related limitation is the possibility that adolescents with ADHD who had no friends at the time of recruitment in this study might have declined to participate. As such, the fact that all teenagers with ADHD in this study had established at least one close friendship in adolescence may reflect the sampling method. Lastly, it is also possible that the friendship experiences of participants in this study might be different from adolescents with ADHD who do not have additional learning or emotional challenges and successfully complete high school graduation requirements within 4 years. As such, findings of this study are considered context-specific and exploratory in nature.

Given the aim and scope of the study, theoretical sampling (Glaser & Strauss, 1967; Glaser, 1992) was not feasible. Participants were recruited from a larger sample of adolescents who had previously participated in a study on friendships of adolescents with ADHD, and they were interviewed in the order in which they consented to participate in this study. This study focused on the adolescents' perspectives and did not consider the perspectives of parents, teachers, or the friends of adolescents with ADHD. Exploring their perceptions and perspectives might have provided more information about how the families and friends of adolescent with ADHD experience their friendships and the factors that have influenced their social relationships with peers in different contexts and developmental periods.

Although attempts were made to enhance the credibility of findings by using analytic memos, journaling, triangulation, peer checking and debriefing, thick descriptions, and an audit trail, and peer debriefing (Lincoln & Guba, 1985; 2000), this study did not include member checking. Member checking typically involves requesting that participants review interview transcripts, analytic memos, and/or preliminary themes to confirm authentic representation of their experiences (Lincoln & Guba, 2000). Conducting follow-up interviews to determine if my conceptualization of data accurately represented participants' experiences was not feasible; however, I actively sought clarification of responses using probes during interviews and also encouraged participants to correct any misperceptions about their experience based on my paraphrasing of their ideas. I also undertook peer checking and debriefing to enhance the credibility of findings.

Lastly, an aim of this qualitative study was to assist in explaining why a subset of female adolescents with ADHD reported seeking friendships with strangers online in Study 1. Only one female adolescent in this qualitative study, however, reported using online methods (i.e., art forum) to seek friendships. As such, future studies about the friendships of adolescents with ADHD should explore the use of online communication and social media in friendship development. Of note, a study of online social communication patterns among adult women with ADHD found that a childhood diagnosis of ADHD predicted, by emerging adulthood, a greater tendency to have used online methods to interact with strangers (Mikami, Szewedo, Ahmad, Samuels, & Hinshaw, 2015).

3.4.4 Clinical Implications

The findings from this study suggest that youth with ADHD can develop close friendships in adolescence. These friendships are generally reciprocal and supportive and provide an important avenue for adolescents with ADHD to not only further develop social perspective and social skills, but perhaps more importantly, find acceptance and belonging. These findings are encouraging in light of the chronic challenges that youth with ADHD experience with peer relations and friendships in childhood. Nevertheless, chronic negative experiences with peers and friends in elementary and middle school, coupled with challenges regulating their emotions and behaviour and navigating social interactions, resulted in significant emotional distress for many participants. Although they sometimes recognized that they were being bullied by their friends in childhood, participants reported feeling confused and unable, or unwilling, to dissolve these relationships because maintaining them was better than being friendless and alone in school.

As they transitioned to high school, many adolescents with ADHD in this study reported becoming resigned to being friendless, as a result of losing confidence in themselves and becoming wary of interacting with same-age peers. Findings suggest, however, that the transition to high school facilitated friendship development for most of the adolescent participants. School transitions typically involve moving to a larger school with a bigger student population. Research has demonstrated that school transitions can disrupt the maintenance of friendships (e.g., Cantin & Boivin, 2004), such that previous friendships are often lost while new friendships are formed following school transitions. It seems that for the adolescents with ADHD in this study, the combination of having a larger and more diverse pool of peers in high school, their perceived

maturation of themselves and their peers, and improved self-regulation and social skills enabled them to overcome many of their difficulties with peers and friendships in childhood and early adolescence. They reported experiencing less peer rejection and isolation, and as being able to meet more like-minded peers, which led to the development of new friendships in adolescence.

In elementary and middle school, adolescents with ADHD in this study had friendships in which they experienced frequent conflict and repeated bullying. In adolescence, however, they were able to establish at least one close friendship in which they felt valued and accepted, in spite of their individual challenges (e.g., academic, social, emotional), and to develop mutual trust and reciprocity. Although their friendships often included other youth who had also been socially rejected and isolated and/or who had learning, behaviour, or emotional difficulties, finding acceptance and belonging in the context of these friendships with same-age peers was perceived as a positive experience for adolescents with ADHD in this study. Although enrolment in special education programs was a source of exclusion and bullying in elementary and middle school, these programs provided an important avenue for friendship development for adolescents with ADHD who required enrolment in specialized educational programs in high school. Adolescents with ADHD in this study who received minimal or no academic support in secondary seemed to have more difficulties finding a peer group and establishing friendships in high school; two adolescents were friendless at school throughout most of their secondary education. While exploratory in nature, findings suggest that female adolescents with ADHD who are socially isolated and experience high levels of parent-adolescent conflict might be more likely to develop additional mental health problems (e.g., anxiety, depression) than those who feel accepted and well supported by their parents.

The findings of this study highlight the importance of using a systems perspective to understand the reciprocal influences of the unique characteristics of youth with ADHD and the peers with whom they interact at different developmental stages (i.e., childhood, early vs. late adolescence), as well as how the changing nature of the contexts in which they function (e.g., elementary vs. high school) impacts the peer relationships and friendships of youth with ADHD. It is important to consider the impact of family (e.g., parenting stress, parent-child conflict) and school factors (e.g., school environment, classroom ecology, teaching practices) on the social development and peer relations of children and adolescents with ADHD. In conclusion, the findings of this study are encouraging as they suggest that youth with ADHD who participated in this study developed

close friendships in adolescence, in which they found acceptance and a sense of belonging, despite chronic difficulties in peer relations in elementary and middle school. I conclude this manuscript with the experiences of two participants:

I expected it to be like elementary school (laughs); I didn't expect people to be so willing to be friends with anyone really (...) when these people started saying hi, and they kept on coming by and talking to me, and so I was just like, wow, these people are friendly! (laughs). I didn't expect it to be this easy.

It's high school, there's more people that I could relate to, so I've met more people that are my friends in high school than middle school...

3.5 Tables

Table 3.1: Participant Demographics

Participant	Gender (M/F)	Age	Grade	Medication (Y/N)	IQ	Comorbid Diagnoses	Parents Marital Status	Highest Educational Degree
Aidan	M	18	12	Y	109	Learning Disability	Divorced	Bachelor's
Adelaide	F	17	12	Y	110	Depression ^a	Married	Bachelor's
Kevin	M	17	12	Y	96	Learning Disability	Married	Master's
Courtney	F	16	12	Y	112	Depression ^a	Separated	Bachelor's
Charlotte	F	18	12	N	86	Learning Disability	Married	-
Manuel	M	16	11	Y	111	Learning Disability	Married	Some university
Madison	F	17	12	Y	90	Anxiety + Depression ^a	Married	College
Aaron	M	17	12	Y	123	Learning Disability	Married	Master's
Elizabeth	F	17	12	Y	99	None	Separated	College

a) Diagnosed in mid-adolescence

Table 3.2: Connors-3 Parent, Teacher, and Self-Ratings

Participant	Connors-3 Parent			Connors-3 Teacher			Connors-3 Self- Report	
	DSM-IV Inattentive	DSM- IV H/I ^a	Peer Relations	DSM-IV Inattentive	DSM- IV H/I ^a	Peer Relations	DSM-IV Inattentive	DSM-IV H/I ^a
Aidan	83	63	90	-	-	-	44	60
Adelaide	89	64	54	70	62	90	82	75
Kevin	78	73	53	47	57	80	62	43
Courtney	88	87	53	54	59	44	80	81
Charlotte	74	66	75	61	78	90	58	45
Manuel	80	73	90	61	80	90	77	90
Madison	87	69	90	53	55	52	62	45
Aaron	68	63	47	45	51	65	70	68
Elizabeth	66	82	75	-	-	-	73	69

a) H/I – Hyperactive/ Impulsive

b) Teacher ratings were not available for Aidan and Elizabeth

Chapter 4

Integrated Discussion

4 Integrated Discussion

4.1 Integrated Discussion of Findings

The overarching goal of the research presented in this dissertation was to examine the friendships of adolescents with Attention-Deficit/Hyperactivity Disorder (ADHD). More specifically, it examines the characteristics of their friendships with regard to the presence and duration of friendships, frequency of interaction with friends, and characteristics of friends (e.g., gender, age, learning problems) and explores the perspectives that adolescents with ADHD have about their friendships. A mixed methods design (QUAN → qual; Creswell & Plano Clark, 2011) was used to investigate related aspects (i.e., characteristics, experiences and mechanisms) of friendship for adolescents with ADHD. First, key findings of Study 1 and Study 2 will be integrated and discussed in relation to the existing literature. Next, general limitations of this research and directions for future research will be discussed. I conclude by addressing clinical implications for psychologists working with children and adolescents with ADHD.

The present research had two objectives: 1) to compare adolescents with and without ADHD with regard to friendship patterns at the level of markers (i.e., the presence of friendships, friendship quantity and stability, and characteristics of friends) and 2) to investigate the meanings (i.e., subjective experience of friendship) and mechanisms (i.e., processes involved in forming and maintaining friendships) that may enhance or impair friendships of adolescents with ADHD. Moderators such as age and gender were considered in both studies. Aspects of friendship quality are addressed within Study 2.

Regarding markers and moderators, results of the quantitative research indicated that all adolescents, regardless of gender or ADHD status, reported having at least one close friend. In addition, the majority of adolescents with ADHD (90%) had at least one close friend in school. Adolescents with and without ADHD did not differ in the number of friends they reported; however, adolescent girls with ADHD had fewer parent corroborated friendships than male adolescents with ADHD and teenagers without ADHD. Studies of children and youth with ADHD (e.g., Blachman & Hinshaw, 2002; Marton et al., 2012; Normand et al., 2013), have

found that their friendships are less stable than those of comparison children. In the current study, however, adolescents with and without ADHD reported friendships of similar duration, and adolescents with ADHD reported maintaining friendships for 2.5 to 3 years. Adolescents with ADHD reported having as much social contact, including time spent talking on the phone and texting, interacting online and face-to-face outside of school, with friends as comparison adolescents. Adolescents with and without ADHD were equally likely to have cross-sex friendships. Teenagers with ADHD, however, were more likely to have friends who were younger or older by two or more years. Consistent with childhood studies (e.g., Blanchman & Hinshaw, 2002, Marton et al., 2012; Normand et al., 2011), according to parent report, adolescents with ADHD were more likely to have close friends with behaviour problems than comparison adolescents.

The findings suggest that a subset of adolescent girls with ADHD have significant challenges in their friendships. Specifically, only adolescent females with ADHD reported meeting friends online, and, while not statistically significant, they were more likely to be friendless at school than comparison females. Research has indicated that adolescent females with ADHD are more impaired than comparison girls in terms of social functioning (Mikami & Hinshaw, 2003; Owens, Hinshaw, Lee, & Lahey, 2009) and have significant problems in their social/interpersonal relationships (Hinshaw et al., 2012). It is thus possible that adolescent females with ADHD might be seeking to reduce feelings of loneliness by establishing friendships online. This might be especially true for those who are friendless at school, as were 14% of the adolescent girls with ADHD in this study. In addition, conflictual parent-teen interactions at age 13 also contribute to the development of close friendships exclusively online by age 20 (Szwedo, Mikami, & Allen, 2011). Mikami and colleagues (2015) found that by emerging adulthood (17 to 24 years), women with childhood ADHD reported having more interactions with strangers online than comparison females. It is therefore also possible that individual and family characteristics of adolescent females in this study resulted in fewer parent corroborated friendships and more online friendships for adolescent girls with ADHD.

Given the quantitative results, I became interested in examining the perspectives of adolescents with ADHD regarding their relationships. Therefore, I interviewed a subset of adolescents with ADHD to a) help me interpret the results of the quantitative research, and b) examine the meanings and potential mechanisms that might influence their friendships in adolescence.

Informed by grounded theory methodology (Charmaz, 2013; Corbin & Strauss, 2008), I proposed a theoretical model to explain the friendship experiences of youth with ADHD in adolescence. Based on qualitative findings, I suggest that the friendship experiences of adolescents with ADHD are influenced by the interplay between the unique characteristics of youth with ADHD and peers with whom they interact at different developmental stages (i.e., childhood, early vs. late adolescence). The proposed model also considers how the changing nature of the contexts (e.g., elementary vs. high school) and environments (e.g., home, school) in which they function impacts the peer relationships and friendships of youth with ADHD.

Consistent with previous research on children with ADHD (e.g., Hoza et al., 2005; Marton et al., 2010; Mikami & Hinshaw, 2006; Normand, 2011; Wiener & Mak, 2009), adolescents with ADHD described common experiences of social rejection, isolation, and victimization by peers, as well as problems with friendships, in childhood and early adolescence. Being excluded and rejected by peers contributed to challenges in establishing positive friendships with same-age peers at school in childhood for many participants. Adolescents with ADHD identified several barriers that interfered with establishing positive peer relations and friendships in childhood and early adolescence, including having difficulties with social skills and challenges navigating social situations, as well exhibiting problematic behaviour (e.g., impulsivity, inattention, oppositionality), and struggling to manage multiple demands.³ Many of the difficulties with peers and friends described by participants are consistent with empirical findings (de Boo & Prins, 2007; Gresham et al., 2010; Marton et al., 2008; Mikami, 2010; Normand et al., 2013; Sibley et al., 2010). In addition, some adolescents noted that they were perceived as “being different or weird” due to their unique learning needs and medication regimen.

In line with previous studies (e.g., Shea & Wiener, 2003; Wiener et al., 2012; Wiener & Daniels, 2016), adolescents with ADHD recalled feeling embarrassed and emotionally distressed as a result of their negative interactions with peers and friends, and they perceived their unique challenges as uncontrollable, pervasive, and stigmatizing. They reported that, in childhood and

³ It is important to note that friendship refers to a dyadic relationship between two individuals while peer status, namely acceptance and rejection, refer to the social status of an individual within a larger group (Bagwell & Schmidt, 2011).

early adolescence, their friendships were often conflictual, and bullying within close friendships was a common experience. Similar to other children who are victims of bullying (e.g., Mishna, Wiener, & Pepler, 2008), they expressed feeling confused when bullied by close friends in childhood. Several participants, however, indicated that being bullied by close friends in childhood was better than being friendless in school. As they transitioned to high school, many adolescents with ADHD reported experiencing significant emotional distress, including a sense of isolation and despair, which led them to becoming resigned to being friendless in high school. Findings suggest, however, that the transition to high school facilitated friendship development for most adolescents with ADHD in this study, likely as a result of the combination of having a larger and more diverse pool of peers in secondary school (Cantin & Boivin, 2004), coupled with perceived maturation of adolescents with ADHD, including improved self-regulation and social development.

Adolescents with ADHD in this research reported experiencing less peer rejection in secondary school, as well as increased opportunities to meet more like-minded peers, which they claimed led to the development of new friendships in adolescence. Although special education was a source of exclusion in elementary and middle school, enrolment in special education classes in secondary school seemed to provide a protective environment to meet other youth who also required intensive educational support in high school (e.g., special education class). Meeting adolescents with similar experiences, with whom they could relate, helped them establish close friendships. On the other hand, adolescents with ADHD in this research who did not receive formal academic assistance seemed to have more difficulty finding a supportive peer group and establishing friendships at school. Nevertheless, all teenagers with ADHD in this study were able to establish at least one close friendship in adolescence, in spite of their individual challenges (e.g., academic, social, emotional), and to develop mutual trust and reciprocity in their close friendships. Although their friendships often included other youth who had also been socially rejected and isolated and/or who had learning, behaviour, or emotional difficulties, these friendships were perceived as positive experiences for adolescents with ADHD in this study. They felt valued by their friends, and experienced acceptance and belonging in the context of their close friendships with same-age adolescents.

Together, results of this mixed methods study indicate that many youth with ADHD develop at least one close friendship, whether at school or outside of school (e.g., neighbourhood, sports, art

lessons) with same-age peers in adolescence. These findings are similar to those by Glass, Flory, and Hankin (2012) who found that adolescents with ADHD typically had at least one close, reciprocal friendship. Previous experiences in childhood with peers and past friends, as well as the contexts in which these occurred (e.g., elementary vs. secondary school), influenced friendships in adolescence for the participants in this study. They described chronic peer rejection and isolation and significant challenges with close friends in childhood and early adolescence (i.e., middle school). These negative experiences were emotionally distressing, and resulted in feelings of despair and hopelessness for the majority of participants. In fact, they lost trust in themselves, became wary of their peers, and became resigned to being friendless in adolescence. The transition to secondary school, however, seemed to facilitate friendship development for adolescents with ADHD in this study.

Results of this mixed methods evaluation indicate that adolescents with and without ADHD do not differ in regards to the number of friends they report having, the duration of their friendships, and the amount of contact with friends. All adolescents with ADHD in this study established at least one close reciprocal and supportive friendship in adolescence with like-minded peers who they met at school or in their neighbourhood. These findings are not surprising because similarity and proximity are important for friendship formation (Epstein, 1983; Hartup, 1996) in childhood and adolescence; however, they are promising given the previously documented chronic difficulties with peer relations and friendships in childhood for youth with ADHD (e.g., Marton et al., 2010; Mrug et al., 2012; Normand et al., 2013). In addition to similarity, aspects such as companionship and shared leisure, which remain at the core of friendship across the lifespan (Bagwell & Schmidt, 2011; Hartup & Stevens, 1997), were present in the friendships of adolescents with ADHD in this study. Perhaps the most encouraging finding of this study is that adolescents with ADHD established close, and mutually supportive friendships with like-minded peers, in which they experienced acceptance and belonging. Being accepted by others, in spite of their unique challenges, was a new and potentially supportive experience for adolescents with ADHD in this study who experienced years of peer rejection, social isolation, and negative interactions within previous “friendships.” Acceptance and support seemed to reframe participants’ thoughts about their ability to acquire meaningful relationships in adolescence and young adulthood.

Longitudinal research on youth with ADHD has found that impaired social skills were associated with subsequent peer rejection, and peer rejection was associated with subsequent impairment in social skills (Murray-Close et al., 2010). Thus, children with ADHD exhibit early deficits in social perspective taking (Marton et al., 2009) and social skills (Hoza et al., 2005) that interfere with their positive social relationships (e.g., peer acceptance, supportive friendships) and increase the likelihood of negative social relationships (e.g., peer rejection, bullying, conflictual friendships; Marton et al., 2012; Mikami & Hinshaw, 2006; Wiener & Mak, 2009). This, in turn, reduces their opportunities to further observe, practice and develop appropriate social perspective taking skills and social skills (Timmermanis, 2015). This reciprocal interaction seems consistent with the mechanisms and processes that influenced friendship development of adolescents with ADHD in the current study. They reported that perceived delays in social cognition and social skills, coupled with deficits in self-regulation (e.g., attention, hyperactivity, impulse control) interfered with establishing positive peer relations and friendships in childhood. Findings suggest that adolescents with ADHD perceived that their social perspective taking and social skills improved throughout adolescence, which, coupled with a decrease in impulsive and hyperactive symptoms, probably contributed to fewer instances of peer rejection and as well as opportunities to develop positive friendships. In addition, it seems that adolescents with ADHD were able to further practice and develop their social perspective taking and social skills within the context of their current friendships. These qualitative findings support quantitative results (Study 1) that indicated that all adolescents, regardless of gender or ADHD status, had at least one friend, whether at school or in the community (e.g., neighbourhood), and that adolescents with and without ADHD did not differ in the number of friends they reported having.

Theoretical and empirical studies suggest that having a reciprocal friend in adolescence is associated with higher self-worth and positive adjustment in young adulthood (e.g., Bagwell et al., 1998). On the other hand, friendships can contribute in both positive and negative ways to well-being and adjustment (Bagwell & Schmidt, 2011). Based on parental report, adolescents with ADHD were significantly more likely than comparison adolescents to have friends with behavioural and learning problems. Adolescents with ADHD also reported having at least one close friend with ADHD, learning, social, and/or emotional challenges. Previous research suggests that these friendships could increase their risk of further adjustment difficulties (e.g., Marshal et al., 2003; Rose, 2002). In fact, some adolescents with ADHD in this study who

struggled to establish friendships at school reported seeking connection within deviant peer groups (e.g., truancy, drug use) until they were able to form a close friendship with like-minded peer in adolescence. Descriptive findings in Study 1 also suggested that a subgroup of female adolescents with ADHD have significant challenges with friendships, and that these adolescent girls were more likely to seek friendships with strangers online. However, most female adolescents with ADHD who participated in the quantitative study did not report seeking online friendships. As such, the role of online communication and social media on the friendship development of adolescent girls with ADHD with significant social challenges was not fully addressed by the findings of this mixed method study, and requires further study. Overall, for adolescents with ADHD in this study, the benefits of having a close friend (e.g., belonging, acceptance, support) with learning or behaviour challenges seemed to outweigh the problems that might emerge in the context of these friendships (e.g., increased anti-social behaviour, worsening of depressive symptoms) (e.g., Dishion et al., 1996; Rose, 2002).

Lastly, some female participants, with co-occurring anxiety or depression, described high levels of family conflict in adolescence. The experiences described by these female adolescents is consistent with research on parenting stress and parent-adolescent conflict in families of youth with ADHD (e.g., Markel & Wiener, 2014; Theule, Wiener, Jenkins, & Tannock, 2013; Wiener, Biondic, Grimbos & Hebert, 2016). Some studies (e.g., DeLay, Hafen, Cunha, Weber, & Laursen, 2013) have found that poor parental support and frequent family conflict can intensify feelings of loneliness associated with social isolation. The effects of social isolation, frequent parent-adolescent conflict and family discord, on the development of co-occurring anxiety and depression for female adolescents with ADHD warrants further exploration.

4.2 General Limitations and Future Research Directions

The specific limitations of Study 1 and 2 were discussed in the previous chapters. In this section, I highlight general limitations of the overall research. Regarding the mixed methods design, considerable time elapsed (i.e., 1 to 2 years) between the quantitative and qualitative data collection. A concurrent mixed methods design would have allowed me to examine different aspects of the friendships of adolescents with ADHD concurrently, as well as potentially include a larger sample for the qualitative component of this study. On the other hand, an exploratory sequential design (QUAL → quan), where qualitative information is obtained first, could have

informed the development of the quantitative study. For example, based on the findings of the qualitative study, in addition to the Adolescent Friendship Questionnaire (AFQ), my quantitative study could have included measures to examine positive and negative features of friendships (i.e., friendship quality). Of note, friendship quality of adolescents with ADHD is the focus of another doctoral student in my research lab. Lastly, I was somewhat restricted by time limitations (i.e., doctoral program timeline) and recruitment challenges, which impacted the number of adolescents with ADHD that were eligible and available to participate in Study 2.

The findings of this study are based primarily on adolescent reports and their perceptions of friendships. Adolescent nominated friendships likely include both mutual and non-reciprocated friendships. Previous studies have found that parents and teachers corroborated fewer friends nominated by youth with ADHD, than those of comparison children (e.g., Bagwell et al., 2011; Marton et al., 2012). The samples in these studies were younger (Marton et al., 2012), however, than in the present study or examined total number of friendships (Bagwell et al., 2011) rather than specific individuals listed as friends. Most adolescents, with and without ADHD, in the current study nominated 4 to 6 friends. It remains unclear whether their reported friendships are indeed reciprocated. Although information was sought from parents, they corroborated, on average, only 1 to 2 adolescent reported friendships across groups. Future studies could explore ways to obtain more information from parents and, ideally, the nominated friends of adolescents with ADHD.

A related possible limitation of this research involves a documented tendency of children and youth with ADHD to overestimate their competence (e.g., Colomer, Martinussen, & Wiener, 2016), including their estimation of social competence and perceived acceptance by peers (e.g., McQuade et al., 2011). The adolescents of ADHD in the qualitative study, however, demonstrated insight regarding their social competence and provided multiple descriptions of challenges in their social relations with peers in childhood and adolescence. It is possible that using an interview, rather than rating scales typically used to evaluate social or behaviour competence and/or specific social skills, enhanced the participants' ability to provide reliable reports (Varma, 2013) about their competence and social functioning. In addition, using interviews can enhance our understanding of the "relationship properties" of friendship, such as closeness, reciprocity, and trust (Bagwell & Schmidt, 2011). Nonetheless, this study did not consider the perspectives of the friends of adolescents with ADHD. Future research should

explore the friendship experiences from the perspective of the friends of adolescents with ADHD. Lastly, quality of friendship was inferred from the data gathered through friendship questionnaires (i.e., time spent interacting with friends) and interviews (e.g., “Do you and your friend disagree or argue? How do you solve conflicts? What kind of information do you share with your friends?”); however, I did not administer measures that assessed quality of friendship (e.g., *Networks of Relationships Inventory*, Furman & Buhrmester, 1985). It is, therefore, important for future studies of friendships of adolescents with ADHD to formally assess friendship quality, ideally from the perspective of both adolescents with ADHD and their friends.

Caution should be taken with respect to the generalizability of study results and the transferability of the proposed theory to other adolescents with ADHD. The sample of both studies was drawn from the largest urban setting in Canada, and findings of the second study were obtained by interviewing a subsample of participants with ADHD from a larger quantitative study. Although the sample for both studies included youth with co-occurring learning and mental health disorders that are common among individuals with ADHD (Barkley, 2015), it is possible that some of the challenges they experienced with their peer relations and friendships in childhood and adolescence were compounded and/or influenced by these co-existing learning and mental health difficulties. Findings of the qualitative study are based on information provided by 9 adolescents with ADHD; therefore, the proposed model is considered to be preliminary, exploratory, and context-specific. In addition, qualitative methodology can be vulnerable to bias because qualitative researchers observe and interpret data from their own frames of reference, and the personal characteristics of participants can impact the researchers (Hays & Singh, 2012). To minimize bias, I endeavoured to approach data collection and analysis with an open-mind and set aside any assumptions based on my previous knowledge and clinical experience, by implementing several safeguards (e.g., analytic memos, journaling, triangulation, peer checking and debriefing, thick descriptions). Conducting follow-up interviews to determine if my conceptualization of data accurately represented participants’ experiences was not feasible; however, I actively sought clarification of responses using probes during interviews and also encouraged participants to correct any misperceptions about their experience based on my paraphrasing of their ideas. I also undertook peer checking and debriefing to enhance the credibility of findings.

Despite these limitations, this research study adds to the existing literature on friendships of adolescents with ADHD. This study is the first to report the length of naturally occurring adolescent friendships as well as the amount of social contact with friends (online, text and phone, and in-person) from the perspective of teenagers with and without ADHD. In addition, it provides in-depth insight regarding the experiences of friendship from the perspective of adolescents with ADHD. Data collected in this study provides researchers and clinicians with rich information regarding the multi-dimensional nature and mechanisms that might influence the friendships of adolescents with ADHD. This is important because it can help us develop more effective interventions that address the unique characteristics and challenges of children and youth with ADHD while attending to potential barriers in their social environments (e.g., peers, school, family). Lastly, a strength of this study was the inclusion of females with ADHD, which comprised 36% of the ADHD group in Study 1 and 55% of the sample in Study 2. This is important as the majority of research with individuals with ADHD has been conducted with predominately male samples (Barkley, 2015).

4.3 Clinical Implications

Overall, participants did not perceive the support they obtained from school personnel or mental health professionals as helpful in managing peer relations or establishing friendships. Similar to findings by Wiener and Daniels (2016), adolescents with ADHD in this study suggested that parents and teachers must be informed about ADHD, so they can be accepting and tolerant, as well as better able to support youth with ADHD effectively. The most common treatment shared by participants was pharmacological intervention, followed by occasional meetings with psychiatrists or psychologists. According to adolescents in this study, the focus of these meetings was response to medication and academic challenges, not peer relations or friendships. This suggests that clinicians might overlook the social difficulties of children and youth with ADHD when conducting assessments or evaluating response to treatment to ameliorate core symptoms of ADHD. This is concerning given the documented long-term consequences of poor peer relationships on adjustment and well-being. On the other hand, it is possible that adolescents' feelings of inadequacy or shame related to poor peer functioning and challenges with friendship development might impact their ability to acknowledge or discuss these sensitive issues when meeting with mental health providers. Therefore, it is important for clinicians to establish a safe

and non-judgemental therapeutic environment within which frank discussion of the social challenges that adolescents with ADHD might be experiencing can take place.

Clinically, it is important for psychologists working with children and adolescents with ADHD and their families to use a multi-method, multi-informant approach for assessment and treatment planning. Regarding assessment, in addition to intellectual, academic, and behaviour functioning, it is crucial that clinicians are attentive to peer functioning domains (e.g., social skills, social cognition, peer status, and friendship). It is recommended that psychologists regularly include questions regarding peer relations and friendships when interviewing youth with ADHD, their parents, and teachers. School psychologists can directly observe social interactions of children with ADHD in natural settings (i.e., classroom, lunchroom, recess), at least in elementary school, which will provide important information about contextual factors that might impact the social functioning of children with ADHD in school. In middle school and high school, psychologists are encouraged to conduct comprehensive assessments for students with ADHD who might be struggling academically, socially, or emotionally. It is very important for clinicians to provide clear information about the nature of ADHD, strengths and challenges associated with ADHD, and reduce the stigma associated with ADHD and co-occurring learning or emotional disorders to enhance access to supports and compliance with recommended treatments across settings (e.g., school, home, community). An adolescent with ADHD in this study explained the perceived personal benefits of increasing awareness and understanding of ADHD as follows:

The most helpful thing was being able to understand and read through my psych assessment, and understand what ADHD was (...) since then, everything's gotten a lot better (...) it helped me realize what areas I was good in or areas I was weak in (...) once the academic came, it sorta helped me (...) also probably what might have helped was being able to recognize that other people have the same problem (...) as a teenager, (...) you would think, 'Oh, I have ADHD, I'm different, nobody feels the same as me' (...) There are so many other people that have the exact same problem.

Regarding intervention, several pharmacological and psychosocial treatments are effective in ameliorating symptoms of ADHD in childhood (Barkley, 2015). Criterion-based and some meta-analytic studies support the efficacy of psychosocial treatments, including behavioural parent training, school-based contingency management, and peer-focused interventions (de Boo & Prins, 2007; Fabiano, 2015; Landau et al., 1998; Mikami, 2010; Mrug et al., 2001; Pelham & Fabiano, 2008), to improve the functioning of children with ADHD. Unfortunately, these

improvements do not result in higher levels of acceptance or improved friendship development (e.g., Evans, Owens, & Bunford, 2014; McQuade & Hoza, 2008). Therefore, some investigators have suggested implementing interventions that focus on fostering dyadic friendships (Hoza, 2007; Mikami, 2010; Normand et al., 2007). For example, the Parent Friendship Coaching (PFC) program (Mikami et al., 2010) focuses on teaching parents to help their children with ADHD to develop close, high-quality dyadic friendships by arranging structured playdates with potential friends. The program also includes parent training in behaviour contingency management and social skills instruction. Regarding peer status, Mikami and Normand (2015) suggest that even if treatment results in behavioral improvement for youth with ADHD, their peer group might still maintain a negative impression of them (i.e., reputational bias). Thus, it is important to address the social contextual factors that influence problems with peer relations and friendship development experienced by children with ADHD (Mikami et al., 2013; Mikami, Lerner, & Lun, 2010).

Educating school administrators, general and special education teachers, and curriculum leaders about ADHD, including the impact of the behaviour and social challenges of youth with ADHD on academic functioning and general adjustment, might be helpful to promote socially inclusive practices in classrooms. This is important because teacher practices are a key influence on classroom norms, including social acceptance by peers (McAuliffe, Hubbard, & Romano, 2009; Mikami, Swaim Griggs, Reuland, & Gregory, 2012). The Teacher Help for ADHD program (Barnet, Corkum, & Elik, 2011) was designed to assist elementary school teachers (i.e., Grade 1 to 6) in providing evidence-based interventions for students with ADHD to better address the academic, behavioural, and social needs of students with ADHD. Qualitative findings suggest that teachers who participated in the Teacher Help for ADHD program perceived growth in their students' interpersonal interactions, including maintaining friendships (Elik, Corkum, Blotnick-Gallant, & McGonnell, 2015). Making Socially Accepting Inclusive Classrooms (MOSAIC; Mikami et al., 2013) is a promising classroom-based intervention that aims to increase social acceptance by helping teachers to implement inclusive classroom practices that encourage peers to be welcoming toward children with ADHD in elementary school. Teachers are trained to implement behavioural management procedures and social skills training lessons, encouraged to develop positive relationships with children with ADHD, and actively use practices that prevent exclusionary peer behaviour.

Youth with ADHD who are disliked by peers and are distressed by their poor peer relations might require additional intervention to prevent or ameliorate the emergence of internalizing disorders (i.e., depression, anxiety) and increase social competence (McQuade et al., 2014). Longitudinal studies (e.g., Ladd & Ettekal, 2013) have suggested that peer-related loneliness in adolescence is associated with higher levels of depressive symptomatology, particularly for chronically lonely youth. Adolescents with ADHD in this study reported chronic social rejection and isolation, as well as bullying by peers and friends, in childhood and early adolescence. These negative peer experiences resulted in loneliness and emotional distress for most adolescents with ADHD in this study. Therefore, it is important for clinicians working with children with ADHD to actively address their social functioning and peer relations, and ensure that those who are experiencing social difficulties and emotional distress have access to group and/or individual treatment provided by school psychologists or other mental health providers (e.g., social workers). In addition, adolescents with ADHD who form close friendships with other youth who exhibit aggressive or maladaptive behaviour (e.g., delinquency, truancy, substance use) or with adolescents with internalizing disorders (e.g., anxiety, depression) need to be closely monitored to prevent further adjustment difficulties in adolescence or adulthood. This is an important endeavor because ADHD placed youth at risk for other mental health problems (Barkley, 2015) and co-morbidity is associated with greater social impairment than ADHD in isolation (Becker et al., 2012).

Less is known about effective interventions for adolescents with ADHD because adolescents become less compliant with pharmacological treatment, increases in parent-adolescent conflict impacts behaviour parent training, and teacher nonparticipation is a frequent implementation barrier for school based interventions (Barkley, 2015; Fabiano, 2015; Sibley et al., 2014). Nonetheless, promising psychosocial interventions include adolescent-specific individual and group behaviour therapy programs that promote teen autonomy and self-efficacy by establishing a collaborative relationship between adolescents with ADHD and parents, teachers, or counselors in after-school or intensive summer programs (see Sibley et al., 2014 for review). These interventions emphasize improvements in daily functioning, primarily targeting academics or family functioning, with additional applications to driving and peer behaviour. A recent meta-analysis and systematic review (Markel, 2016) indicated that mindfulness training interventions may hold promise in reducing peer problems for children and youth with ADHD. One group

mindfulness intervention that has shown some promise on improving the social relationships of adolescents with ADHD for youth with ADHD and their parents is MYmind (Haydicky, Schechter, Wiener, & Ducharme, 2015). MYmind is an eight-week group mindfulness-intervention, and its components include mindfulness practices (e.g., body scan, sitting meditation), elements of cognitive therapy (e.g., noticing automatic thoughts, exploring connection between thoughts and feelings), and psychoeducation (e.g., understanding ADHD, attention, and mindfulness) delivered in parallel youth and parent groups lasting 90 minutes. An evaluation study with Canadian adolescents, ages 13 to 18 years, indicated that adolescents with ADHD who participated in MYmind exhibited significant reductions in peer relations problems at post-test that were maintained at follow-up (Haydicky et al., 2015). In addition, a qualitative study that explored the perceptions of adolescents with ADHD and their parents who participated in MyMind (Haydicky, Wiener, & Shechter, 2017) found that participants experienced notable improvements in social and family relationships as a result of the intervention. Regarding peer relations, adolescents with ADHD reported using mindfulness to manage social anxiety, sustain conversations, read social cues, and consider the perspective of their peers. Additional research is needed to determine how to improve the peer relationships of adolescents with ADHD.

An unexpected finding of this dissertation was that, for adolescents with ADHD who participated in the qualitative study, enrolment in special education classes in secondary school seemed to provide a protective environment to meet other youth who also required intensive educational support in high school. Meeting adolescents with similar experiences, with whom they could relate, helped them establish close friendships. Further research is needed to explore the lived experiences of adolescents with ADHD in secondary school, particularly in the area of peer relationships, including friendships, to create interventions that improve their social functioning as well as general adjustment in adolescence.

In closing, based on the findings of this doctoral dissertation, as well as existing and emerging research, I have learned that the peer relationships and friendship experiences of adolescents with ADHD are complex. The unique characteristics of children and adolescents with ADHD place them at risk for impaired peer relationships, including chronic problems with friendships. It is important, however, for future research to investigate both individual and environmental factors that influence the peer relations and friendships of children and adolescents with ADHD. Given the richness of information obtained by using quantitative and qualitative methodology in this

dissertation, research that includes qualitative methodology and mixed methods designs is advocated.

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Appendix A

Adolescent Friendship Questionnaire

Participant #: _____

Date: _____

Gender: _____

Tell me the names of your close friends. You can tell me about close friends who are or are not at your school.	2. Is _____ male or female?	3. How old is _____?	4. When did you meet _____?	5. When did you and _____ become close friends?	6. Where did first meet _____? Online: Answer 6a School: Answer 6b-c Other: (specify) Go to 7	6a. Have you ever met _____ in person?	6b. Is _____ a student at your school now? 1. Y 2. N 3. DK	6c. Do you have classes with _____? 1. Y 2. N 3. DK	7. About how often do you and _____ communicate online (e.g., chat, social networking sites, email)? 1. Never 2. Almost everyday 3. Once a week or more 4. Once or twice a month 5. A few times a year 6. Less than twice a year	8. About how often do you and _____ talk on the phone or send text messages? 1. Never 2. Almost everyday 3. Once a week or more 4. Once or twice a month 5. A few times a year 6. Less than twice a year	9. About how often do you spend time with _____? 1. Never 2. Once a week or more 3. Once or twice a month 4. A few times a year 5. Less than twice a year	9b. Where do you and _____ get together now?

Who is your very best friend? _____

Who is your best friend at school? _____

Appendix B

PARENT CONSENT LETTER

Dear _____:

My name is Dr. Judith Wiener, and I am a professor at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT). Together with my colleague (Dr. Maria Rogers), and my graduate students, I am doing a research project on teenagers with Attention-Deficit Hyperactivity Disorder (ADHD). We are writing to ask you if you would give permission for your son/daughter to take part in this research. For this, we need the participation of teenagers who have been diagnosed with ADHD and teenagers who do not have ADHD. We are asking you and your son/daughter to take part in this research because we believe that your feelings and opinions and theirs are valuable information that can help adolescents with ADHD achieve in school and have healthy relationships with parents and peers.

Purpose of the Research

We want to learn more about the peer and family relationships of adolescents with ADHD. So far, there is very little research on this. We believe that knowing more about the peer and family relations of teens with ADHD is important because it will help us develop strategies for teens to help themselves get along with parents and friends, and suggest strategies for parents, teachers, and other professionals to help the teens. This research has been funded by the Social Sciences and Humanities Research Council.

Description of the Research

If your son/daughter takes part in this research study, the testing session will take about 3 to 4 hours. The session will take place in a quiet room at OISE/University of Toronto. During the session, a research assistant will ask your son/daughter to answer some questions about him/herself, such as the first name of his/her friends, how often he/she spends time with them, and whether he/she has been bullied or bullies others. Other questionnaires will also ask him/her whether or not they have ever been involved in a romantic relationship. If yes, the questionnaire will continue to ask for some details of his/her relationship, such as conflicts or arguments in their relationship, intercourse, birth control, and characteristics they find important in a romantic partner. Lastly, the research assistant will also ask him/her about arguments he/she sometimes has with his/her parents and his/her beliefs about why they happen. You will be asked to fill out a questionnaire about this as well. We will also ask you and your son/daughter about your involvement in his/her education. In addition, the research assistant will ask your son/daughter to listen to some descriptions of social problems that teens often have and ask him/her how he/she would solve them. Sometimes the research assistant asks him/her questions and writes down the answer. Other times, your son/daughter fills out a questionnaire by checking off or circling a number. He/she can read the questionnaires him/herself or ask the research assistant to read them to him/her. He/she will also do some short reading, writing, and math, vocabulary, and problem-solving activities. We will give him/her breaks, including a lunch break if it is lunchtime. We will also send questionnaires to you and your son/daughter's teacher to fill out and send back to us. The questionnaires will take the teacher about a half hour to fill out. Your questionnaires will likely take about an hour and a half to complete.

Benefits

The main benefit of this study is that it will help us learn more about peer and family relationships of adolescents with ADHD. We want to listen to what your son/daughter and you say and think, and then use that information to help teens with ADHD. A second benefit is that your son/daughter would learn a bit about how research in psychology is done.

Another benefit from this study is that your son/daughter's answers to the questions from the reading, writing, and math activities and some of the questionnaires that he/she and you and the teacher fill out will let us know what his/her strengths are and what areas require support. About three months after he/she take part in the study and we receive all of the questionnaires back from you and the teacher, we will mail a report to you and your son/daughter about his/her behaviours and his/her skills in reading, writing, and math, and list some strategies that might help him/her achieve in school and behave appropriately at home, in school, and with friends. Although this is not a complete psychoeducational assessment, the report is often useful for developing an individual educational plan (IEP) in high school and for obtaining accommodations in postsecondary institutions.

Potential Harms and Withdrawal

There are no harms associated with taking part in the study. The only thing that might happen is that your son/daughter may feel a little uncomfortable talking about him/herself and how he/she feels about some things. If he/she feels that he/she doesn't want to answer some of the questions, he/she can tell the research assistant, and talk about it. He/she may also say that he/she wants to stop, skip a question, or that he/she needs a break and wants to continue some other time. Also, if he/she says that he/she will take part in the study and then changes his/her mind that is okay. He/she can decide at any time to stop taking part in the study. The same applies to you – you can withdraw from the study at any time. The only consequence is that if you do not complete the questionnaires, we will not have the information needed to write the report on your son/daughter's skills described above.

Confidentiality

All of the data will be confidential – it will only be accessed by Dr. Wiener and her research assistants. No information that reveals your identity or that of your son/daughter will be released without consent unless required by law. The information that we collect from you, your son/daughter, and his/her teacher will be analyzed and stored in locked files in a locked office. The questionnaires will not have your name or that of your son/daughter on them. All of the data will be kept at OISE/UT in locked files for 5 years after we publish an article in a journal or book on the research. The report that we write about your son/daughter and the test protocols on which this report is based will be kept for 10 years after his/her 18th birthday. A number code will be used in place of the names. We would need your permission and signed consent if you want to send these scores to another professional.

The results of the questionnaires and activities described above will be used for research purposes only. We will analyze the information, talk about it at conferences, and write about it so that youth, parents, teachers, and other professionals such as doctors and psychologists can learn from what we have found. Because we are working with many teenagers on this project, people

hearing our presentations or reading what we write will not know which teenager said what. When we do this, or when we publish our research in academic journals/books, we will only present group information. We will not tell anyone your son/daughter's or your name or give any information that could help people know who you are.

We will not be able to provide you with your responses on some of the questionnaires and interviews because they were developed for the purpose of the research. We will not tell your son/daughter the specific answers that you gave to the questions, but, as discussed above, we will write a report about how your son/daughter did and mail it to him/her and you.

The only time that we would have to tell somebody something you or your son/daughter said is if he/she or you say that he/she would do serious harm to him/herself or someone else, or someone is seriously harming him/her or you (for example: abuse, that they are dating someone much older or younger than them, or that you or your child are having suicidal ideations). In that case, as required by law, we would have to make sure he/she gets help by contacting and informing appropriate mental health, child protection, or law enforcement professionals of the clear and imminent danger only. Otherwise, everything he/she, you or the teacher say or write is kept confidential (e.g. information pertaining to your child's sexual behaviour would not be shared with you or other parties).

Compensation

Participation in research is voluntary for both you and your son/daughter. If you and your son/daughter do decide to take part in the study, he/she can choose between getting \$30.00 for his/her participation or (for teenagers in high school) the time he/she spends taking part in the study can be counted towards his/her community service hours; we will give him/her a certificate.

Access to Results

We will write a summary of the results of the study when we are finished and put it on our website. We will send you the link when it is ready. You and your son/daughter can read this.

You may contact Dr. Judith Wiener, _____ (graduate student) or _____ (lab manager) with any questions you may have about the study. We will try to answer all of these questions.

Sincerely,

Ph.D. Student
(416) 978-0933

Lab Manager
(416) 978-0933

Judith Wiener, Ph. D
Professor
School and Clinical Child
Psychology
(416) 978-0935

Department of Human Development and Applied Psychology
Ontario Institute for Studies in Education of the University of Toronto (OISE/UT)
Toronto, Ontario M5S 1V6

PARENT CONSENT FORM

“I acknowledge that the research procedures described above have been explained to me and that any questions that I have asked have been answered to my satisfaction. As well, the potential harms and discomforts have been explained to me and I also understand the benefits of participating in the research study. I know that I may ask now, or in the future, any questions that I have about the study. I have been assured that no information will be released or printed that would disclose my identity without my permission, unless required by law. I understand that I will receive a copy of this signed consent. I understand that participation is voluntary and I can withdraw at any time.”

I hereby consent to take part in this research.

Name of Parent/Guardian

Signature

Date

Name of person who obtained consent

Signature

The person who may be contacted
about this research is:

“I agree to be contacted in the future regarding other studies being conducted by the ADHD Laboratory at OISE/UT.”

Signature

“I agree that the information collected about my son/daughter in this study can be used for future data analysis provided that all identifying is removed and that he/she cannot be identified.”

Signature

ADOLESCENT CONSENT LETTER

Dear :

My name is Dr. Judith Wiener, and I am a professor at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT). My colleague (Dr. Maria Rogers), together with our graduate students are doing a research project on teenagers with Attention-Deficit Hyperactivity Disorder (ADHD). We are writing to ask you if you would like to take part in this research. For this, we need the participation of teenagers who have been diagnosed with ADHD and teenagers who do not have ADHD. We are asking you to take part in this research because we believe that your feelings and opinions and those of your parents are valuable information that can help adolescents with ADHD achieve in school and have healthy relationships with parents and peers.

Purpose of the Research

We want to learn more about the peer and family relationships of adolescents with ADHD. So far, there is very little research on this. We believe that knowing more about the peer and family relations of teens with ADHD is important because it will help us develop strategies for teens to help themselves get along with parents and friends, and suggest strategies for parents, teachers, and other professionals to help the teens. This research has been funded by the Social Sciences and Humanities Research Council.

Description of the Research

If you take part in this research study, the testing session will take about 3 to 4 hours. The session will take place in a quiet room at OISE/University of Toronto. During the session, a research assistant will ask you to answer some questions about yourself, such as the first name of your friends, how often you spend time with them, and whether you have been bullied or bully others. Other questionnaires will also ask you whether or not you have ever been involved in a romantic relationship. If yes, the questionnaire will continue to ask about some details of your relationship, such as conflicts or arguments in your relationship, intercourse, birth control, and characteristics you find important in a romantic partner. Lastly, the research assistant will also ask you about arguments you sometimes have with your parents and your beliefs about why they happen. Your parents will also fill out a questionnaire about this. We will also ask you and your parents about how your parents are involved with your education. In addition, the research assistant will ask you to listen to some descriptions of social problems that teens often have and ask you how you would solve them. Sometimes the research assistant asks you questions and writes down the answer. Other times, you fill out a questionnaire by checking off or circling a number. You can read the questionnaires yourself or ask the research assistant to read them to you. You will also do some short reading, writing, math, vocabulary, and problem-solving activities. We will give you breaks, including a lunch break if it is lunchtime. We will also send questionnaires to your parents and teachers to fill out and send back to us. The questionnaires will take the teacher about a half hour to fill out. The questionnaires for your parents will likely take about an hour and a half to complete.

Benefits

The main benefit of this study is that it will help us learn more about adolescents with ADHD. We want to listen to what you say and think, and then use that information to help other teens

with ADHD. A second benefit is that you would learn a bit about how research in psychology is done.

Another benefit about this study is that your answers to the questions from the reading, writing, and math activities and some of the questionnaires will let us know what your strengths are and what areas you need to work on. About three month after you take part in the study and we receive all of the questionnaires back from your parents and teacher, we will mail a report to you and your parents about your behaviours and your skills in reading, writing, and math, and list some strategies that might help you achieve in school and behave appropriately at home, in school, and with friends. Although this is not a complete psychoeducational assessment, the report is often useful for developing an individual educational plan (IEP) in high school and for obtaining accommodations in postsecondary institutions.

Potential Harms and Withdrawal

There are no harms associated with taking part in the study. The only thing that might happen is that you may feel a little uncomfortable talking about yourself and how you feel about some things. If you feel that you don't want to answer some of the questions, you can tell the research assistant, and talk about it. You may also say that you want to stop, skip a question, or that you need a break and want to continue some other time. Also, if you say that you will take part in the study and then change your mind, that is okay. You can decide at any time to stop taking part in the study. The only consequence is that we would not have the information we need to write the report that we described above.

Confidentiality

Everything you tell the research assistant in the session will stay between you, the research assistant, and Dr. Wiener. No information that reveals your identity will be released without consent unless required by law. The information that we collect from you, your parents, and teacher will be analyzed and stored in locked files in a locked office. The questionnaires will not have your name on them. A number code will be used in place of your name. The data will be kept at OISE/UT in locked files for 5 years after we publish an article in a journal or book on the research. The report we write about you and the test protocols we use to write it will remain in the locked files for 10 years after your 18th birthday. We would need your permission and signed consent and the consent of your parents if you are under 18 if you want to send these scores or your report to another professional, your school, or postsecondary institution.

The results of the questionnaires and activities described above will be used for research purposes only. We will analyze the information, talk about it at conferences, and write about it, so that parents, teachers, and other professionals such as doctors and psychologists can learn from what we have found. Because we are working with many teenagers on this project, people hearing our presentations or reading what we write will not know which teenager said what. When we do this, or when we publish our research in academic journals/books, we will only present group information. We will not tell anyone your name or give any information that could help them know who you are.

We will not be able to provide you with your responses on some of the questionnaires and interviews, because they were developed for the purpose of the research. We will not tell your

parents the specific answers that you gave to the questions, but we will write a report about how you did and mail it to you and them.

The only time that we would have to tell somebody something you have said is if you tell us that you will do serious harm to yourself or someone else, or someone is seriously harming you (for example if you reveal abuse, that you are dating someone much older or younger than you, or are having suicidal ideations). In that case, as required by law, we would have to make sure you get help by contacting and informing appropriate mental health, child protection, or law enforcement professionals of the clear and imminent danger only. Otherwise, everything else you say is kept confidential (e.g. information pertaining to sexual behaviour would not be shared with your parents or other parties).

Compensation

Participation in research is voluntary – you can decide. If you and your parents decide to take part in the study, you can choose between getting \$30.00 for your participation or (for teenagers in high school) the time you spend taking part in the study can be counted towards your community service hours; we will give you a certificate.

Access to Results

We will write a summary of the results of the study when we are finished and put it on our website. We will send you the link when it is ready. You and your parents can read this.

You may contact Dr. Judith Wiener, _____ (graduate student) or _____ (lab manager) with any questions you may have about the study. We will try to answer all of these questions.

Sincerely,

Ph.D. Student
(416) 978-0933

Lab Manager
(416) 978-0933

Judith Wiener, Ph. D
Professor
School and Clinical Child
Psychology
(416) 978-0935

Department of Human Development and Applied Psychology
Ontario Institute for Studies in Education of the University of Toronto (OISE/UT)
Toronto, Ontario M5S 1V6

ADOLESCENT CONSENT FORM

“I acknowledge that the research procedures described above have been explained to me and that any questions that I have asked have been answered to my satisfaction. As well, the potential harms and discomforts have been explained to me and I also understand the benefits of participating in the research study. I know that I may ask now, or in the future, any questions that I have about the study. I have been assured that no information will be released or printed that would disclose my identity without my permission, unless required by law. I understand that I will receive a copy of this signed consent. I understand that participation is voluntary and I can withdraw at any time.”

I hereby consent to take part in this research.

Name of Adolescent

Signature

Date

Name of person who obtained consent

Signature

The person who may be contacted
about this research is:

“I agree to be contacted in the future regarding other studies being conducted by the ADHD Laboratory at OISE/UT.”

Signature

“I agree that the information collected about me in this study can be used for future data analysis provided that all identifying is removed and that I cannot be identified.”

Signature

Parent Consent Form for the Release of Information

I, _____, give permission for a research assistant from
(print full name of parent)

Dr. Judith Wiener's research lab to send a questionnaire to my son/daughter,

_____ 's teacher to complete. I understand that this questionnaire will
provide

information about my son/daughter's academic and social functioning.

Parent or Guardian Signature: _____

Date: _____

Please complete all forms and give it to your son/daughter to bring in on the date of testing.

ADOLESCENT BACKGROUND INFORMATION

Name of Adolescent: _____

What is your son/daughter's date of birth?

D.O.B: _____ Age: _____ Grade: _____

Was your son/daughter diagnosed with ADHD/ADD?

YES **NO**

If yes,

When was your son/daughter diagnosed?

Who diagnosed him/her?

Was your son/daughter diagnosed with LD?

YES **NO**

When was your son/daughter diagnosed?

Who diagnosed him/her?

Which academic areas are affected by your son/daughter's LD (eg. Language, math)

Does your son/daughter have any diagnoses besides ADHD or LD?

YES, Specify: _____ **NO**

(Exclusion criteria: Rett's Disorder, Autism, Intellectual Disabilities, Psychotic Disorders, Genetic Disorders, Bipolar Disorder, Tourette's)

Has your son/daughter had any assessments/psychological evaluations?

YES, Specify: _____ **NO**

(If less than 1 year, ask parent to bring copy.)

If so, what kind of assessment and when were they tested?

Now I'd like to ask you a few questions about your family. Would you please tell me who lives in the home with _____? Please tell me each person's name, gender, age, and relationship to _____.

NAME	GENDER (M/F)	AGE	RELATIONSHIP TO PARTICIPANT

Are there any immediate family members not living at home?

NO **YES (Specify)**

Would you mind indicating your marital status?

Single Married Separated Divorced Common Law
Widowed

Do any members of the family (immediate or extended) have a ADHD diagnosis?

NO **YES (Specify member of family)**

Do you think that is possible that you or your partner have ADHD?

NO **YES**

[If yes], Who?

[If yes], What makes you think that?

Do any members of the **immediate** family have a learning disability, or any other medical or psychological condition? **Please specify.**

Now I'd like to ask you some questions just to make sure that _____ is eligible for this study. I am going to list a number of common problems that children and adolescents have and I would like you to think of _____'s behaviour within the last month. **While you are answering these questions, please think about _____'s behaviour when he/she is *NOT* on the medication.** For each question, I would like you to pick a category. The categories are never or seldom, occasionally, often or very often. So within the last month would you say that _____ has been "happy, cheerful, and had a positive attitude" never or seldom, occasionally, often or very often. **(Continue to complete the Conners over the telephone).**

I will now take a few minutes to score this questionnaire. It will take a few minutes; would you like to hold on or would you like me to call you back? **[Score, check eligibility and continue]**

[If ineligible]: Unfortunately, _____ doesn't meet the criteria to participate in our study. Thank you for your interest and have a great day. **[If, parent asks, explain t-score results].**

[If eligible]: see next page.

[If eligible]: _____ meets the criteria to participate in our study. We will be preparing a teacher package to send out the rating scale that I mentioned in our last conversation. So the last bit of information I'd like to collect from you has to do with _____'s school.

If the adolescent meets criteria, ask the following questions:

Is your son/daughter supported by a special education teacher (e.g., learning centre methods & resource teacher)? _____

[If yes], How much support? _____

IEP: **NO** **YES**

[If yes], for which subjects? **MATH** **ENGLISH** **SCIENCE**
(Circle all that apply)

FRENCH **HISTORY /GEOGRAPHY** **OTHER**

Accommodations: **NO** **YES**

[If yes], for which subjects? _____

What kinds of accommodations? _____

Modified Curriculum: **NO** **YES**

[If yes], by how much? _____

For which subjects? _____

Educational Assistant: **NO** **YES**

[If yes], for which subjects? _____

For what proportion of the day? _____

Self-Contained Classroom: **NO** **YES**

Withdrawal Support: **NO** **YES**

[If yes], for which subjects? _____

For what proportion of the day? _____

Attendance in Learning Strategies class: **NO** **YES**

Partial Integration: **NO** **YES**

[If yes], for which subjects? _____

Fully Integrated: **NO** **YES**

Is your son/daughter in French Immersion: **NO** **YES**

Private School: **NO** **YES**

Public School: **NO** **YES**

Name of school: _____

Phone number: _____

Address: _____

Grade: _____ Semestered: **NO** **YES**

Number and level of courses: _____

Has your son/daughter repeated any grades? _____

[If yes], which grade(s)? _____

Has your son/daughter skipped any grades? _____

[If yes], which grade(s)? _____

Are you aware of _____'s grades in:

English Courses _____

Other _____

Math Courses _____

Other _____

Science Courses _____

Other _____

(If applicable) Special Ed teacher: _____

Principal's name: _____

I would like to send the rating scale that I previously mentioned to the teacher who would know _____ best. This may be the teacher who has known him/her the longest, or it may be someone who has provided support to him/her. Can you suggest the name of the teacher who might best be able to comment on _____'s behaviours and academic functioning?

Teacher's name: _____

Is your child taking any medications for ADHD?

Name of medication: _____

Dose: _____ (or colour)

How often taken: _____

How many pills: _____

How long has he/she taken it: _____

Is your son/daughter taking any other medications?

NO **YES** (Specify) _____

On the day of the testing with us, we ask parents whose adolescents are taking ADHD medication **NOT** to give the (Ritalin/Dexedrine/Concerta). This is because some adolescents with ADHD that we see do not take medications and we would like them to be in the same state.

Questions for parents

What is the highest level of education that you completed?

1. ☐ No schooling
2. ☐ Some elementary
3. ☐ Completed elementary
4. ☐ Some secondary
5. ☐ Completed secondary
6. ☐ Some college
7. ☐ Completed a college program
8. ☐ Some university
9. ☐ Completed an undergraduate university degree
10. ☐ Master's degree
11. ☐ Doctoral degree

If applicable, what is the highest level of education that your partner/spouse completed?

1. ☐ No schooling
2. ☐ Some elementary
3. ☐ Completed elementary
4. ☐ Some secondary
5. ☐ Completed secondary
6. ☐ Some college
7. ☐ Completed a college program
8. ☐ Some university
9. ☐ Completed an undergraduate degree
10. ☐ Master's degree
11. ☐ Doctoral degree

What kind of work do you and your spouse/partner (if applicable) do?

You: _____ Full time ☐
 _____ Part time ☐
 _____ Currently unemployed ☐

Spouse/ _____ Full time ☐
 Partner _____ Part time ☐
 _____ Currently ☐

Appendix C

Parent Phone Intake Interview -- Part I

[If parent answers phone] Hi Mr./Mrs. _____, my name is Cynthia Maya Beristain, and I am a member of the ADHD research team at OISE/UT in whose study you (recently) participated. Our records indicate that you agreed to be contacted for future studies; I'm wondering if you would have a few minutes to hear about the study that I will be conducting for my doctoral thesis under the supervision of Dr. Judith Wiener.

Is now a good time to talk about the study?
If not, when would be a better time to call you?

I will tell you a little bit more about the study, and please feel free to ask questions at any time.

First I will tell you about the purpose of the study:

I am interested learning more about the friendships of adolescents with ADHD. So far, very little research has focused on this area of study. I think that asking teenagers with ADHD about their own friendship experiences and gain understanding of what they experience in their social relationships is important in terms of helping parents, teachers, and other professionals support them better.

Now I will tell you about the components of the study:

I am hoping to conduct in-depth interviews with about 10 adolescents in total. Participation in the study would involve an individual interview with _____. He/she would be asked to fill out a questionnaire related to his/her friendships. Adolescents who participate will also be interviewed regarding positive and negative experiences within their friendships as well as their experience of bullying and romantic relationships. If they have been involved in a relationship, they will be asked about some details of their relationship, such as conflicts or arguments in their relationship, intercourse, birth control, and characteristics they find important in a romantic partner.

I would conduct the interview session at OISE/UT (where he came for the last study), and it will last approximately one hour. With your consent, the interview would be audiotaped so it could be transcribed later. If your son/daughter chooses to participate in this study, he/she will receive \$30.00, or if he/she prefers, your son/daughter can choose to count his/her participation in the study toward the community service hours requirement for graduation. In that case, I would provide a certificate attesting to his/her participation in the study.

There are no medical procedures involved in our study. With your consent, I would like to access some of the data collected in the previous study including _____. After the study is completed, you would receive a summary of findings and recommendations.

Do you have any questions about the study at this point?

Is this something that you think _____ might be interested in participating? YES NO
(Name of adolescent)

[If yes] Why don't you discuss it with him/her, and I will call you back to confirm. Is there a time tomorrow when I could reach you? If you have any questions in the meantime, please call (416) 978-0933
[If no] Thank you for your time (and participation in our previous study).

Parent Phone Intake Interview -- Part II

Hello Mr./Mrs. _____. This is Cynthia Maya Beristain calling regarding the ADHD study at OISE/UT. I'm wondering if whether you've had a chance to talk to _____ about participation in our study.

[If not, when can I call you back? _____]

[If yes] Is he/she interested? YES NO

(If not interested), thank you for your time (and participation in our previous study).

(If interested), as I mentioned in our previous conversation, I would like to access some of the data collected in the previous study. Do you agree that I may access the information that we have on file for your son/daughter, collected during the course of your participation in the previous ADHD study at OISE/UT?

YES NO

[If yes] I can mail or email a package that contains information for you.

Your package will include:

- A consent letter that explains the study again.
- A parent consent form for you to print and sign and return with _____ when he/she comes in for the study.
- An assent form that explains the study to _____. (You can review this with him/her prior to the interview if you like. I will also go over it before we begin.)
- Directions to OISE/UT

Do you prefer mail or email? Mail Email

Please provide the current mailing address or email address for you and your partner (if applicable).

Mailing address: _____

Mother name: _____ email: _____

Father name: _____ email: _____

Step-mother name: _____ email: _____

Step-father name: _____ email: _____

Do you know which day would be best for _____ to come into OISE? (To remind you, participation will likely require about 1 hour).

Monday Tuesday Wednesday Thursday Friday Saturday Sunday

Would it be better for me to schedule a date with you, or to speak to _____ about this? Schedule exact date if possible. (Will call back to confirm.)

I will give you my telephone number again in case you think of additional questions: (416) 978-0933 (if I am not there, please leave me a message and I will return your call ASAP).

Thank you for your time! I look forward to meeting _____. I would also like to speak to him/her about the study just to explain what I will be doing. Is he/she available now, or would there be a good time for me to call and speak with him/her?

Adolescent Telephone Script

Hi _____, my name is Cynthia Maya Beristain. I am conducting a research study about the friendships of teens with ADHD at the University of Toronto. I already spoke to your mom/dad about the study, and I understand that you are interested in taking part.

I'll first tell you a little bit about the study. I am interested in learning about the friendships and social relationships of teenagers with ADHD. I believe that talking to adolescents with ADHD about their experiences with friendships, bullying, and relationships is important, so that people like parents, teachers, and other professionals can consider these things when they try to help them.

What you'll be doing in the study is answering some questions about your friendships. In all, the session will take approximately 1 hour. (Of course you can have a break during the session). With your permission, I would also like to access the information that we have on file about you, collected during the course of your participation in the previous ADHD study at OISE/UT.

If you take part in the study, you can choose between getting \$30.00 for your participation, or the time you spend here can count towards your community service requirement for graduation.

Does this sound like something you would be interested in doing?

(If no), Thank you for your time (if applicable) and participation in our previous study.

(If yes), Thank you for talking with me today. I look forward to meeting with you. Can you put your mother/father back on the phone?

Do you have any questions that you would like me to answer?

Now, please ask your mother/father to come back on the phone.

I've talked to your son/daughter about the study. He/she is interested in talking part in the study. Thank you for your time. I look forward to meeting you and _____. I will call you the day before the testing session to remind you of the appointment.

REMINDER CALL PLACED? **YES** (Date: _____)

Appendix D

Adolescent Friendship Questionnaire - Update

Participant #: _____

Date: _____

Gender: _____

DOB: _____

Grade: _____

Currently taking medication: _____

If yes, name/dosage: _____

Tell me the names of your close friends. You can tell me about close friends who are or are not at your school.	2. Is _____ male or female?	3. How old is _____?	4. When did you meet _____?	5. When did you and _____ become close friends?	6. Where did you first meet _____? Online: Answer 6a School: Answer 6b-c Other: (specify) Go to 7	6a. Have you ever met _____ in person?	6b. Is _____ a student at your school now? 1. Y 2. N	6c. Do you have classes with _____? 1. Y 2. N	7. About how often do you and _____ communicate online (e.g., chat, social networking sites, email)? 1. Almost everyday 2. Once a week or more 3. Once or twice a month 4. A few times a year 5. Less than twice a year 6. Never	8. About how often do you and _____ talk on the phone or send text messages? 1. Almost everyday 2. Once a week or more 3. Once or twice a month 4. A few times a year 5. Less than twice a year 6. Never	9. About how often do you spend time with _____? 1. Once a week or more 2. Once or twice a month 3. A few times a year 4. Less than twice a year 5. Never	9b. Where do you and _____ get together now?

Who is your very best friend? _____

Who is your best friend at school? _____

Appendix E

Interview Protocol

After completing the Adolescent Friendship Questionnaire (AFQ), the following questions will be used to gather further information about each friend. If more than 3 friends are listed, participants will be asked to say which 3 are their closest friends.

Tell me about your friendship with ... Why is it that you consider ____ to be a friend?

- A. How did you meet this friend?
- B. How did you become friends with him/her?
- C. How often do you get together with this friend?
- D. How do you spend time together?
- E. What do you like about this friend?
- F. Are there some things you dislike about him/her?
- G. What things do you think ... expects from you as a friend?
- H. Are there things that you do for this friend that you wouldn't for other people?
- I. Do you share secrets/dreams/fears with him/her?
- J. How long was it before you shared personal secrets/fears/dreams with...?
- K. Are there some things you do not share with him/her?
- L. Do you and your best friend ever argue or disagree? How do you solve conflicts?
- M. Have you ever experienced bullying within this friendship?

Overall Questions about Friends

- N. Do your friends know each other? Do you every hang out with your friends in groups?
Describe the group of people you hang out with.
- O. How do you and your friends communicate?
- P. Do you have best friend? Why is he/she your best friend?
- Q. Have you ever been involved in a romantic relationship with any of these friends?
- R. Have any of these relationships involved sexual activities?

Research Question 1: How do adolescents with ADHD understand friendship? What characteristics/features do adolescents with ADHD consider important in friendships? (Similarity, companionship, help, intimacy, loyalty)

Preamble: Friendship can mean different things to different people.

Key Question: How do you describe “friendship”? In your opinion, what are the most important qualities of friendship?

Probes/follow-up questions:

- What is the difference between an acquaintance, a peer, and a friend?
- What does it mean to be friends with someone?
- How do you know when someone is your friend?

- In what ways is a friend different from a romantic relationship?
- What is most important for you in a friendship?
- What things do you think other people expect from their friends?
- What do teenagers do for their friends that they might not do for other people like classmates or peers?
- When thinking about close friends or best friends,
 - o What kinds of things help teenagers become friends?
 - o How often do you think friends talk with each other by text, phone, or online?
 - o How do friends spend time together?
 - o Are there some things teenagers might dislike about their friends?
 - o What kind of things (secrets, aspirations, fears) might friends share with each other?
 - o Are there things that teens might not share with their friends?
 - o How long do you think it takes for friends to trust each other?
 - o Do friends ever fight or disagree? How do they solve problems?
 - o Do some children and youth experience bullying in their friendships?

Research Question 2: What difficulties do adolescents with ADHD experience in their friendship and social relationships?

Preamble: Some children and adolescents with ADHD have trouble making or keeping friends. I wonder if you have experienced difficulties with getting along with peers or making friends.

Key Question: What, if any, concerns do you have about your friendships and social interactions?

Probes/follow-up questions:

- How do you get along with others?
- How easy or difficult has it been for you to make friends?
- Have you ever had trouble making or keeping friends?
- Are you happy/satisfied with the number of friends you have?
- What has helped you make friends?
- What can get in the way of making or keeping friends?
- Do you prefer having a lot of friends or a few close friends?
- Are you happy with your current friendships?
- Is there anything you would change about your friendships or social relationships?
- Have you experienced bullying?
- Are you still being bullied?
- Do you ever feel lonely?

Research Question 3: What supports do adolescent with ADHD identify as potentially helpful in developing and maintaining friendships?

Preamble: Many parents, teachers, coaches and other people involved with recreation, and specialists like doctors, psychologists, and social workers try to help youth with ADHD who have trouble getting along with others and making friends

Key Question: What, if anything, do you think would help you or other adolescents with ADHD to get along with others and make friends?

- What do you think would help you or other youth with ADHD get along with others and make friends?
- Have you ever participated in activities that might help children and youth make friends? For example, sports teams, drama or music activities?
- What advice do you have for the adults who are close to or work with teens with ADHD to help them with friendships?
- What do you think friends of kids with ADHD should do to help maintain their friendships with kids with ADHD?
- Have you ever received specialized support related to getting along with others or making friends? For example, social skills groups, individual counseling? If yes, how was this helpful?
- As a child, what role did your family play in terms of helping you make friends or give you opportunities to spend time with other children?
- As an adolescent, what role does your family play in terms of helping you make friends or give you opportunities to spend time with peers?

Appendix F

PARENT CONSENT LETTER

My name is Cynthia Maya Beristain, and I am a doctoral student at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT). For my doctoral thesis, I am doing a study on the friendships of teenagers with Attention-Deficit Hyperactivity Disorder (ADHD), under the supervision of Dr. Judith Wiener. We are writing to ask you if you would give permission for your son/daughter to take part in this study. For this, we need the participation of teenagers who have been diagnosed with ADHD. We are asking you and your son/daughter to take part in this research because we believe that learning about the personal experiences of teenagers with ADHD with friendships will provide valuable information that can help adolescents with ADHD have healthy relationships with peers.

Purpose of the Research

We want to learn more about the friendships of adolescents with ADHD. So far, there is very little research on this, particularly from the perspective of adolescents with ADHD. We believe that knowing more about the friendships of teens with ADHD is important because it will help us develop strategies for teens with ADHD to have good quality friendships, and suggest strategies for parents, teachers, and other professionals to help the teens establish and maintain healthy relationships.

Description of the Research

Participation in the study involves an individual interview with your child. The interview will be conducted by Cynthia Maya Beristain in a quiet room at OISE/University of Toronto, and it will last approximately one hour. During the session, I will ask your son/daughter to answer some questions about him/herself and his/her friends, such as the first name of his/her friends, how often he/she spends time with them, how he/she spends time with his/her friends, positive and negative aspects about their friendships, and whether he/she has been bullied. I will also ask him/her whether or not he/she has ever been involved in a romantic relationship. If yes, the questionnaire will continue to ask for some details of his/her relationship, such as conflicts or arguments in their relationship, intercourse, birth control, and characteristics they find important in a romantic partner. Lastly, I will ask questions regarding strategies or interventions that they believe are helpful for youth ADHD to develop friendships and positive relationships.

With your consent, interviews will be audiotaped for subsequent transcription and analysis. In addition, I would like to access some of the data collected in the previous study to obtain information regarding your child's ADHD symptomatology, background history and family composition, and intellectual, academic, and social functioning. After the study is completed, you would receive a summary of study findings.

Benefits

The main benefit of this study is that it will help us learn more about the friendships and peer relationships of adolescents with ADHD. Likely, many adolescents with ADHD have not been asked about the challenges they may experience within their friendships and social relationships. We want to listen to what your son/daughter says and thinks, and then use that information to help teens with ADHD. A second benefit is that your son/daughter would learn a bit about how research in psychology is done.

Potential Risks and Withdrawal

There are no harms associated with taking part in the study. The only thing that might happen is that your son/daughter may feel some discomfort when talking about him/herself and how he/she feels about his relationships. If he/she feels that he/she doesn't want to answer some of the questions, he/she can tell me and talk about it. He/she may also say that he/she wants to stop, skip a question, or that he/she needs a break and wants to continue some other time. Following the interview, if your child finds the discomfort

to be more than minor, you are encouraged to contact Cynthia Maya Beristain or Dr. Wiener so we can discuss how to provide further support for him/her. In addition, should we feel, during or after the interview with your child that he/she would benefit from referral to a mental health professional, we would inform you of that recommendation and would provide an appropriate referral.

Finally, if your child says that he/she will take part in the study and then changes his/her mind that is okay. He/she can decide at any time to stop taking part in the study. The same applies to you – you can withdraw from the study at any time.

Confidentiality

All of the information shared by you or your child is confidential – it will only be seen by Dr. Wiener and myself. All identifying information (e.g., names, school) will be removed when the taped interviews are transcribed. Your child's name will be replaced by a number/letter code in order to assure anonymity. The tapes and information that we collect from you or your son/daughter will be stored in locked filing cabinets in a locked office. All of the data will be kept at OISE/UT in locked files for 5 years after we publish an article in a journal or book on the research. No information that reveals your identity or that of your son/daughter will be released without consent unless required by law. Specifically, if he/she indicates that he/she might do serious harm to himself/herself or others or that she is being harmed, we would inform you and appropriate mental health professionals.

The results of the questionnaires and activities described above will be used for research purposes only. We will analyze the information, talk about it at conferences, and write about it so that youth, parents, teachers, and other professionals such as doctors and psychologists can learn from what we have found. Because we are working with several teenagers on this project, people hearing our presentations or reading what we write will not know which teenager said what. When we present or publish our research in academic journals/books, all identifying information will be removed. For example, pseudonyms will be used to protect the identity of all individuals and institutions (e.g., schools) and other potentially identifiable incidents/events will be excluded. We will not tell anyone your son/daughter's or your name or give any information that could help people know who you are.

We will not be able to provide you with the responses on the interviews because they were developed for the purpose of the research. We will not tell you about specific answers that your son/daughter gave to questions. The only time that we would have to tell somebody something you or your son/daughter said is if he/she or you say that he/she would do serious harm to him/herself or someone else, or someone is seriously harming him/her or you (for example: abuse, that they are dating someone much older or younger than them, or that you or your child are having suicidal ideations). In that case, as required by law, we would have to make sure he/she gets help by contacting and informing appropriate mental health, child protection, or law enforcement professionals of the clear and imminent danger only. Otherwise, everything he/she says is kept confidential (e.g. information pertaining to your child's sexual behaviour would not be shared with you or other parties).

Compensation

Participation in research is voluntary for both you and your son/daughter. If you and your son/daughter do decide to take part in the study, he/she can choose between getting \$30.00 for his/her participation or (for teenagers in high school) the time he/she spends taking part in the study can be counted towards his/her community service hours; we will give him/her a certificate.

Access to Results

We will write a summary of the results of the study when we are finished and put it on our website. We will send you the link when it is ready. You and your son/daughter can read this.

You may contact me or Dr. Judith Wiener with any questions you may have about the study. We will try to answer all of these questions.

Sincerely,

Cynthia Maya Beristain, M.S.
Ph.D. Student
(416) 978-0933

Judith Wiener, Ph.D.
Professor, School and Clinical Child Psychology
(416) 978-0935

PARENT CONSENT FORM

“I acknowledge that the research procedures described above have been explained to me and that any questions that I have asked have been answered to my satisfaction. As well, the potential harms and discomforts have been explained to me and I also understand the benefits of participating in the research study. I know that I may ask now, or in the future, any questions that I have about the study. I have been assured that no information will be released or printed that would disclose my identity without my permission, unless required by law. I understand that I will receive a copy of this signed consent. I understand that participation is voluntary and I can withdraw at any time.”

I hereby consent for my child to take part in this research.

Name of Parent/Guardian

Signature

Date

Name of person who obtained consent

Signature

You are encouraged to contact Cynthia Maya Beristain or Dr. Judith Wiener about any questions you may have about the study, and all your inquiries will be addressed.

Cynthia Maya Beristain
Doctoral Student
(416) 978-0933

Dr. Judith Wiener
Professor/PhD Supervisor
(416) 978-0935

“I agree to the audio-recording and transcription of interviews with my son/daughter”	YES NO
“I agree that information previously collected about my son/daughter can be accessed for the current study provided that all identifying is removed and that he/she cannot be identified.”	YES NO
“I agree that the information collected about my son/daughter in this study can be used for future data analysis provided that all identifying is removed and that he/she cannot be identified.”	YES NO
“I agree to be contacted in the future regarding other studies being conducted by the ADHD Laboratory at OISE/UT.”	YES NO

Signature

ADOLESCENT CONSENT LETTER

Dear _____ :

My name is Cynthia Maya Beristain, and I am a doctoral student at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT). I am doing a study on the friendships of teenagers with Attention Deficit/Hyperactivity Disorder (ADHD) for my doctoral degree at OISE/UT. As you might remember from when you participated in the last study, we are interested in learning more about how adolescents with ADHD think about their relationships with others. I want to better understand how teenagers with ADHD choose and make friends, how they spend time with their friends, what they value in their relationships, and other things like that. I am asking you to participate in this study because I believe your feelings and opinions are valuable information that can help adolescents with ADHD have healthy relationships with their peers.

Purpose of the Research

We want to learn more about the friendships of adolescents with ADHD. So far, there is very little research on this, particularly from the perspective of adolescents with ADHD. We believe that knowing more about the friendships of teens with ADHD is important because it will help us develop strategies for teens with ADHD to have good quality friendships, and suggest strategies for parents, teachers, and other professionals to help the teens establish and maintain healthy relationships.

Description of the Research

Participation in the study involves meeting with me at OISE/University of Toronto for about one hour. I will ask you some questions about you and your friends, how often you get together, what you do with your friends, and if you have experienced any stressful events within your friendships. I will also ask about romantic relationships and questions regarding strategies or interventions that you think might be helpful for teenagers with ADHD to develop friendships and positive relationships.

With your permission, I will audiotape our interview so that I can transcribe them and make notes for my research paper. Your answers will help me understand how you feel about friendships and may help others understand what challenges teenagers with ADHD might have in their relationships. If you agree, I would like to access some of the information that you provided during the previous study. After the study is completed, you will receive a summary of study findings.

Benefits

The main benefit of this study is that it will help us learn more about the friendships and relationships of adolescents with ADHD. I want to listen to what you say and think, and then use that information to help other teens with ADHD. A second benefit is that you would learn a bit about how research in psychology is done.

Potential Harms and Withdrawal

There are no harms associated with taking part in the study. The only thing that might happen is that you may feel a little uncomfortable talking about yourself and how you feel about some things. If you feel that you don't want to answer some of the questions, you can tell me, and we will talk about it. You may also say that you want to stop, skip a question, or that you need a break and want to continue some other time. Finally, it is important to remember that participation in the study is your choice. If you say that you will take part in the study, and then change your mind, that is okay. You can decide at any time to stop taking part in the study.

Confidentiality

Everything you tell me in the interview will stay between you, myself, and Dr. Wiener, who is my teacher. When I make notes from our interview, a number/letter code will be used in place of your name.

The information that I collect will be analyzed and stored in locked files in a locked office. The data will be kept at OISE/UT in locked files for 5 years after we publish an article in a journal or book on the research.

The results of our work together will be used for research purposes only. I will analyze the information, talk about it at conferences, and write about it, so that parents, teachers, and other professionals such as doctors and psychologists can learn from it. Because I am working with many teenagers on this project, people hearing our presentations or reading what we write will not know which teenager said what. I will not tell anyone your name or give any information that could help people know who you are.

We will not be able to provide you with your responses on interviews because they were developed for the purpose of the research. We will not tell your parents the specific answers that you gave to the questions. The only time that I would have to tell somebody something you have said is if you tell me that you will do serious harm to yourself or someone else, or someone is seriously harming you (for example if you reveal abuse, that you are dating someone much older or younger than you, or are having suicidal ideations). In that case, as required by law, I would have to make sure you get help by contacting and informing appropriate mental health, child protection, or law enforcement professionals of the clear and imminent danger only. Otherwise, everything else you say is kept confidential (e.g. information pertaining to sexual behaviour would not be shared with your parents or other parties).

Compensation

Participation in research is voluntary – you can decide. If you decide to take part in the study, you can choose between getting \$30.00 for your participation or the time you spend taking part in the study can be counted towards your community service hours; we will give you a certificate.

Access to Results

We will write a summary of the results of the study when we are finished and put it on our website. We will send you the link when it is ready. You and your parents can read this.

You may contact Cynthia Maya Beristain or Dr. Judith Wiener with any questions you may have about the study. We will try to answer all of these questions.

Sincerely,

Cynthia Maya Beristain, M.S.
Ph.D. Student
(416) 978-0933

Judith Wiener, Ph.D.
Professor, School and Clinical Child Psychology
(416) 978-0935

ADOLESCENT CONSENT FORM

“I acknowledge that the research procedures described above have been explained to me and that any questions that I have asked have been answered to my satisfaction. As well, the potential harms and discomforts have been explained to me and I also understand the benefits of participating in the research study. I know that I may ask now, or in the future, any questions that I have about the study. I have been assured that no information will be released or printed that would disclose my identity without my permission, unless required by law. I understand that I will receive a copy of this signed consent. I understand that participation is voluntary and I can withdraw at any time.”

I hereby consent to take part in this research.

Name

Signature

Date

Name of person who obtained consent

Signature

You are encouraged to contact Cynthia Maya Beristain or Dr. Judith Wiener about any questions you may have about the study, and all your inquiries will be addressed.

Cynthia Maya Beristain
Doctoral Student
(416) 978-0933

Dr. Judith Wiener
Professor/PhD Supervisor
(416) 978-0935

“I agree to the audio-recording and transcription of my interview”	YES	NO
“I agree that information previously collected about me can be accessed for the current study provided that all identifying is removed and that I cannot be identified.”	YES	NO
“I agree that the information collected about me in this study can be used for future data analysis provided that all identifying is removed and that I cannot be identified.”	YES	NO
“I agree to be contacted in the future regarding other studies being conducted by the ADHD Laboratory at OISE/UT.”	YES	NO

Signature

DIRECTIONS TO OISE/UT: 252 Bloor Street West, Toronto, ON,
Room #9-265

Please come to Floor 9 when you arrive, someone will meet you in the lounge just north of the elevator.

TTC Directions:

Take subway to St. George Station (University/Spadina line). At the St. George Station, proceed to the "Bedford Rd. Exit". **Do not exit onto the street.** At this exit (by the Gateway Newstand), you can enter OISE/UT **directly** by entering through the turnstile marked "*The Ontario Institute for Studies in Education*".

Once inside OISE/UT, take the elevator to the 9th floor. Turn right towards the North End and proceed to room #9-265.

To exit OISE/UT to the subway platform, take the elevators to the Concourse Level "C" and follow the signs to the subway.

Driving Directions:

OISE/UT is located at 252 Bloor Street West in Toronto. This is between Bedford Road and St. George Street. There are several ways to get there, but the two easiest are probably:

- Get to Avenue Rd and proceed to Bloor Street. OISE/UT is just west of Avenue Rd.
- Get to Spadina Rd. and proceed to Bloor Street. OISE/UT is just east of Spadina Rd.

PLEASE CALL 416-978-0933 IF YOU HAVE DIFFICULTIES WITH THESE DIRECTIONS.

Appendix G

Univariate Analyses of Number of Friendships by ADHD Status and Age⁴

	ADHD		Total	Comparison		Total	ADHD Status	Age	ADHD Status x Age
	Early Ad (N=33) <i>M (SD)</i>	Late Ad. (N=26) <i>M (SD)</i>	(N=59) <i>M (SD)</i>	Early Ad. (N=23) <i>M (SD)</i>	Late Ad. (N=25) <i>M (SD)</i>	(N=48) <i>M (SD)</i>	<i>F (n²_p)</i>	<i>F (n²_p)</i>	<i>F (n²_p)</i>
Adolescent Nominated ^a	4.61 (2.42)	4.85 (2.20)	4.71 (2.31)	5.35 (1.99)	4.92 (2.21)	5.13 (2.10)	.875 (.008)	.046 (.000)	.587 (.006)
	ADHD		Total	Comparison		Total	ADHD Status	Age	ADHD Status x Age
	Early Ad (N=30) <i>M (SD)</i>	Late Ad. (N=23) <i>M (SD)</i>	(N=53) <i>M (SD)</i>	Early Ad. (N=19) <i>M (SD)</i>	Late Ad. (N=22) <i>M (SD)</i>	(N=41) <i>M (SD)</i>	<i>F (n²_p)</i>	<i>F (n²_p)</i>	<i>F (n²_p)</i>
Parent Corroborated ^{ab}	1.40 (1.16)	1.78 (1.41)	1.57 (1.28)	1.53 (1.12)	1.45 (.96)	1.49 (1.03)	.167 (.002)	.397 (.004)	.360 (.009)*

* $p < .05$; ** $p < .01$

a) Bootstrapping was used across analyses to increase the robustness of findings, as some variables violated assumptions of normality or homogeneity.

⁴ To explore age effects, the sample was dichotomized into early (13-15) and late (16-18) adolescence.

Appendix H

Univariate Analyses of Length of Adolescent Nominated Friendship and Multivariate Analyses of Amount of Contact with Adolescent Nominated Friends by ADHD Status and Age

	ADHD		Total	Comparison		Total	ADHD Status	Age	ADHD Status x Age
	Early Ad (N=33) <i>M (SD)</i>	Late Ad. (N=26) <i>M (SD)</i>	(N=59) <i>M (SD)</i>	Early Ad. (N=23) <i>M (SD)</i>	Late Ad. (N=25) <i>M (SD)</i>	(N=48) <i>M (SD)</i>	<i>F (n²_p)</i>	<i>F (n²_p)</i>	<i>F (n²_p)</i>
Average length of friendships ^{ab}	.21 (.10)	.20 (.16)	.21 (.13)	.18 (.09)	.19 (.12)	.19 (.10)	.529 (.005)	.022 (.000)	.246 (.002)
Amount of contact online ^{ac}	3.79 (1.82)	4.08 (1.75)	3.92 (1.78)	4.38 (1.28)	4.74 (1.00)	4.57 (1.14)			
Amount of contact by text or telephone ^{ac}	4.23 (1.66)	4.38 (1.48)	4.30 (1.56)	3.73 (1.96)	4.94 (1.38)	4.36 (1.77)			
Amount of contact in person ^{ac}	3.82 (1.23)	4.03 (1.21)	3.91 (1.21)	3.97 (.76)	4.23 (.73)	4.10 (.74)			

* $p < .05$; ** $p < .01$

a) Bootstrapping was used across analyses to increase the robustness of findings, as some variables violated assumptions of normality or homogeneity.

b) The average length of adolescent nominated friendships was divided by the adolescent's age to obtain a score reflecting the proportion of the adolescent's age on average that they have maintained reported friendships.

c) The amount of online, telephone/text, and direct contact is the mean contact across nominated friends.