Peer Victimization in Adolescents with Attention-Deficit/Hyperactivity Disorder: Frequency and Risk Factors

by

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Abstract

The present study examined the frequency and risk factors associated with experiencing victimization by peers and bullying others in adolescents with Attention-Deficit/Hyperactivity Disorder (ADHD). Sixty-four males and females (ages 13-18) and their parents and teachers completed standardized questionnaires. Adolescents with ADHD were more likely to report increased levels having experienced victimization by peers and participation in bullying others. Parent reports of victimization by peers and bullying others did not differ between adolescents with and without ADHD. Among adolescents with ADHD, those who had experienced victimization by peers perceived lower levels of social support and had increased levels of parent-reported peer relation difficulties. Bullying others was not associated with perceptions of social support or parent-reported peer relation problems. Individual factors such as internalizing problems and oppositionality were not significantly associated with experiencing victimization by peers or bullying others. Implications for future research and clinical assessment are discussed.
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1 Introduction

The present study investigated the frequency and risk factors associated with experiencing victimization by peers and bullying others in adolescents with Attention-Deficit/Hyperactivity Disorder (ADHD). Peer victimization or bullying occurs when one or more children perform negative actions toward another child repeatedly and over time. These negative behaviours, which are intended to cause harm, can be physical (e.g., hitting or kicking), verbal (e.g., name calling or threats), relational (e.g., intentional exclusion from group) or, more recently, cyber bullying (e.g., sending mean messages over email). Peer victimization is characterized by an imbalance of power in which the victims cannot defend themselves (Olweus, 1995). Children may be involved as victims, bullies or both bullies and victims. In the present discussion, “victimization by peers” will refer to the experience of the individual who is targeted by the bullying behaviour and “bullying others” will refer to the actions of the perpetrator of the bullying behaviour. “Bullying” will be used as an umbrella term referring to the overall interaction.

It is important to gain an understanding of the experiences of victimization by peers and bullying others among adolescents with ADHD because there are long term consequences of being a victim or perpetrator of bullying. Chronic victimization by peers and engaging in bullying others are associated with a wide range of detrimental emotional, social and academic outcomes. Experiencing victimization by peers during youth is associated with long-term internalizing problems, low self-esteem, suicidal ideation and loneliness in adulthood (Olweus, 1995; Rigby, 2003). Experiencing victimization by peers is also associated with academic maladjustment including negative perceptions of school (perceptions of school as unsafe, desire to avoid school and increased absenteeism) and academic underachievement (Card & Hodges, 2008). Children who bully others are at a greater risk for future criminality (Rigby, 2003).

Some children are provocative victims or bully/victims (Olweus, 2001). They often provoke victimization by peers through their aggressive behaviour, but are unable to defend themselves adequately when victimized by others. These children resemble the children who have experienced victimization in their presentation with internalizing problems, rejection by peers and low self-esteem. They also resemble children who bully in dominance, aggression, antisocial
behaviour and attention problems (Olweus, 2001). Children who both bully and who are victims are at greater risk of experiencing severe adjustment problems, which can continue into adulthood (Kumpulainen, Raesaenen, & Puura, 2001; Olweus, 1984, 1993).

ADHD is characterized by symptoms of inattention (e.g., distracted by extraneous stimuli, difficulty sustaining attention), hyperactivity/impulsivity (e.g., often “on the go”, interrupts or intrudes on others) or both (American Psychiatric Association, 2000). The behavioural and social profile of individuals with ADHD closely resembles the risk factors for experiencing victimization by peers and for bullying others. For example, some children with ADHD exhibit poor social skills and engage in inappropriate, impulsive and uncooperative behaviour (Hoza, 2007; Stormont, 2001) which may elicit aggressive responses from peers. As a result of these problematic interaction styles, children with ADHD often have the peer relation difficulties that are associated with increased risk for victimization by peers including fewer dyadic friendships and greater rates of peer rejection (Hoza, 2007). Childhood ADHD has been associated with other risk factors for experiencing victimization by peers such as decreased perceptions of peer social support (Demaray & Elliot, 2001) and anxiety (Tannock, 2000). The hyperactive and oppositional behaviours exhibited by children with ADHD (Barkley, 2006) are risk factors for bullying others.

Bullying is best understood from a social-interactional perspective (Craig & Pepler, 1997); bullying others and experiencing victimization by peers are seen as the product of an ongoing interaction between individual characteristics and social circumstances. In addition to examining whether adolescents with ADHD are at increased risk for experiencing victimization by peers and for bullying others, in the present study several individual and social environmental risk factors are investigated as predictors of bullying in this population.

1.1 Factors associated with Bullying

Previous research has identified several individual risk factors associated with being a child who is victimized, bullied or a child that both bullies and is victimized including internalizing problems such as anxiety and depression, oppositional behaviours and conduct problems, learning disabilities, inattention, hyperactive and impulsive behaviours and problematic social
skills. In addition there are social risk factors, such as inadequate social support, that have been associated with both victimization by peers and bullying others.

Children who have been victimized by peers tend to be more anxious and insecure than other children; they are often cautious, quiet and sensitive. Internalizing problems predict increases in experiencing victimization by peers over time, presumably because children with these problems are viewed as “easy targets” by aggressors in that they are less likely to defend themselves (Card & Hodges, 2008). Anxious behaviours have been described as both pre-existing characteristics of children who are victims, as well as consequences of being victimized (Swearer, Grills, Haye & Cary, 2004). Thus, there is a cycle in which these factors place individuals at risk for victimization by peers, which leads to further problems in these areas. Like children who are “pure” victims, those who are provocative victims also demonstrate increased levels of anxiety (Olweus, 2001). In contrast to victimized children, those who engage in bullying others have unusually little anxiety and insecurity or are roughly average on such dimensions (Olweus, 1995). Depression is associated with bullying others such that children who reported feelings of depression were more likely to bully others (Bosworth et al., 1999). Furthermore, higher levels of depression have been associated with greater levels of bullying others over time (Espelage et al., 2001).

Misconduct has been shown to be one of the strongest predictors of bullying others (Bosworth et al., 1999). Children who break rules or laws and get into trouble are more likely than other children to report bullying others. Bullying others has also been associated with increased rates of Oppositional Defiant Disorder (Coolidge, DenBoer, & Segal, 2003).

Individuals with Learning Disabilities (LD) are at an increased risk for involvement in bullying, as both victims and perpetrators. In addition to the stigma that may be associated with an LD diagnosis, children and youth with LD exhibit many characteristics associated with being victimized by peers (Mishna, 2003). They are more likely have problematic peer interactions, lower social status, and increased levels of anxiety and depression (Greenham, 1999; Kavale & Forness, 1996). Children and adolescents with LD experience higher levels of being victimized by peers than those without LD (Morrison et al., 1994; Nabuzko & Smith, 1993). While the
findings for bullying others are less consistent, LD has been associated with an increased likelihood of bullying others (Kaukiainin et al., 2002).

Children with externalizing problems, such as hyperactivity or emotional dysregulation, are likely to annoy or provoke aggressors (Card & Hodges, 2008). These children, often categorized as provocative victims, have problems with concentration and hyperactivity that causes irritation, tension and negative reactions from others (Olweus, 1993). In addition to increasing the risk of being victimized by peers, hyperactivity and impulsivity have also been associated with bullying others. Levels of hyperactivity in children who are considered “pure” bullies are elevated compared to same sex controls, but are not as high as children who are provocative victims (Kumpulainen et al., 1998).

Low levels or the absence of prosocial and socially skilled behaviours (e.g., assertiveness, effective conflict management) can be considered a risk factor for experiencing victimization by peers. Furthermore, low peer acceptance, high peer rejection and having few or no friends predict increases in victimization by peers (Card & Hodges, 2008). This may be because children who are rejected and not well liked by their peers are seen as easy targets by aggressors, and aggressors may receive positive reinforcement or little punishment for targeting those children (Card & Hodges, 2008). Children who bully also experience social problems that increase their risk of victimizing others. Specifically, they have little empathy for the children they victimize along with a strong need to dominate and control other people (Olweus, 1995).

Friendships reduce the risk of victimization by peers because friends with certain characteristics (e.g., physical strength, peer acceptance) might protect the child from potential aggressors (Card & Hodges, 2008). Both the quantity and the quality of a child’s friends may influence the child’s chances of being victimized by peers. Longitudinal studies confirm that, of children who have at least one friend, those who can count on a friend to stick up for them when bullied are relatively unlikely to be victimized by peers (Perry, Hodges & Egan, 2001). Research has shown that children who are victims and bully/victims report lower levels of social support from their classmates than do children who bully others and children with no involvement in bullying (Demaray & Malecki, 2003). Additionally, children who are considered bullies and bully/victims report lower perceptions of social support from their parents than comparison children.
1.2 Bullying and ADHD

Children with ADHD have been found to be at an increased risk for involvement in bullying with more than 50% experiencing problems with being victimized, bullying others, or both (Wiener & Mak, 2009). Across studies, children with ADHD report higher levels of being victimized by peers than comparison children (Wiener & Mak, 2009; Holmberg & Herjn, 2008; Tymann et al., 2010; Unnever & Cornell, 2003). Parents and teachers reported that children with ADHD bullied others more often than children without ADHD (Wiener & Mak, 2009). The extent to which children with ADHD report increased participation in bullying others is inconsistent. Some researchers have found that children with ADHD were no more likely than comparison children to report that they participated in bullying others (Wiener & Mak, 2009). They claimed that it is possible that children with ADHD may underreport bullying others for social desirability reasons (Pelligrini, 2001) or due to a lack of insight into their own social behaviour (Wiener & Mak, 2009). However, other research conducted with samples of children (Holmberg & Hjern, 2008; Unnever & Cornell, 2003) and children and adolescents combined (Tymann et al., 2010) has shown that individuals with ADHD reported increased levels of participation in bullying others.

Research has also investigated behavioural, emotional and social variables associated with involvement in bullying as a victim or perpetrator in children and adolescents with ADHD. Social exclusion is one of the most salient forms of victimization by peers for children with ADHD. Interviews with parents, teachers and children indicated that children with ADHD may experience this relational form of bullying due to their lack of age appropriate social skills, emotional volatility, immaturity and lack of insight when interacting with peers (Shea & Wiener, 2003). Among children and adolescents with ADHD, victimization by peers was not associated with attention problems, but was associated with self-reported depression and parent-reported social problems, internalizing and externalizing programs, aggression and delinquent behaviour (Taylor et al., 2010). Wiener and Mak (2009) also found that anxious-shy characteristics and social skills were correlated with reports of being victimized by peers, but these factors were not significant predictors of victimization by peers when ADHD symptomatology was taken into account. Children and youth with ADHD and a comorbid diagnosis (LD, behavioural or emotional) reported lower levels of victimization by peers than those with an ADHD diagnosis.
alone (Taylor et al., 2010). With regard to bullying others, parent-reported oppositionality has been shown to mediate the relationship between ADHD symptomatology and bullying others (Wiener & Mak, 2009). Oppositional behaviours, such as being angry and resentful, fighting, being defiant, blaming others and losing one’s temper, partially mediated the indirect relationship between ADHD symptoms and bullying others.

Across studies, children with ADHD are at increased risk of experiencing victimization by peers and participation in bullying others. Furthermore, children and adolescents with ADHD who have been victimized by their peers exhibit more internalizing, externalizing and social problems than those who have not been victimized. While some studies have included both children and adolescents with ADHD, the samples consisted primarily of children under the age of 13, so our understanding of involvement in bullying among adolescents with ADHD is limited.

Approximately 50-80% of children with ADHD continue to meet criteria for the disorder in adolescence; however, the symptomatology of ADHD in adolescence differs from that of children. Specifically, adolescents typically experience only a modest decline in symptoms of inattention, while hyperactivity and impulsivity remit much more abruptly (Biederman, Mick & Farone, 2000). Although relatively little research has investigated the social functioning of adolescents with ADHD, the few studies conducted indicate that they also have many of the social risk factors associated with experiencing victimization by peers including fewer dyadic friendships, high levels of peer rejection and lower social competence (Bagwell, Molina, Pelham, & Hoza, 2001; Dumas, 1998). Although children with ADHD have been found to have lower perceptions of social support than children without ADHD (Demaray & Elliot, 2001), perceptions of social support in adolescents with ADHD have not been studied. Finally, adolescents with ADHD, like children, also experience high levels of comorbidity with anxiety disorders (Tannock, 2000).

### 1.3 Objectives and Hypotheses

The first objective of this study was to determine if adolescents with ADHD experience more victimization by peers and bully others more than adolescents without ADHD. It was hypothesized that adolescents with ADHD would be at an increased risk for both victimization by peers and bullying others. The second objective was to investigate individual characteristics
that are associated with bullying among adolescents with ADHD. Specifically, the study examined the extent to which peer relation difficulties, oppositionality and internalizing problems are associated with the experience of victimization by peers and participation in bullying others. It was hypothesized that social problems and internalizing problems would be associated with being victimized by peers. It was also hypothesized that bullying others would be associated with increased levels of oppositionality. The third objective was to examine how perceived social support, a self-reported environmental factor, is associated with experiencing victimization by peers and with bullying others in adolescents with ADHD. It was hypothesized that adolescents with ADHD would perceive lower levels of social support than those without ADHD. It was also hypothesized that adolescents who were victimized would perceive less social support from peers and adolescents who bully others would perceive less social support from families.

2 Method

2.1 Participants

The sample comprised 64 adolescents; 40 (27 male, 13 female) were classified as having ADHD and 24 (13 male, 11 female) served as a typically functioning comparison group. All participants were between the ages of 13- and 18- years (M=14.84, SD=1.61) and were required to have an abbreviated IQ ≥ 80 on the Wechsler Abbreviated Scale of Intelligence (WASI). Adolescents with Pervasive Developmental Disorder, Intellectual Disabilities, Psychotic Disorders, Bipolar Disorder, Obsessive-Compulsive Disorder and Tourette’s Disorder were excluded as these mental health problems may have independent effects on adolescents’ experiences with bullying. Given the high rates of comorbidity with ADHD, participants with co-occurring Learning Disabilities (LD), Conduct Disorder (CD), Oppositional Defiant Disorder (ODD), anxiety or depression were included.

All participants with ADHD were required to have a previous diagnosis of ADHD based on DSM-IV criteria. To ensure the participants continued to display ADHD symptoms in at least two settings, parents and teachers completed the Conners 3-Parent and Conners 3-Teacher (Conners, 2008). To be classified as having ADHD, participants had to have at least one clinically significant score (T ≥ 70) on the DSM-IV Inattentive or DSM-IV
Hyperactive/Impulsive scales of the Conners 3-P and Conners 3-T and have a Clinical or Borderline Clinical score (T ≥ 60) from the other rater. Thirty-four participants met these criteria. Adolescents were also classified in the ADHD group, despite subclinical ratings from teachers, if they had a previous diagnosis, clinically significant parent ratings and were on medication for ADHD at school. Six additional participants were classified as having ADHD based on these criteria. Adolescents in the typically functioning comparison group had scores in the average range (T ≤ 62) on both DSM-Inattentive and DSM-Hyperactive/Impulsive scales according to both parent and teacher reports.

Within the ADHD group, 33 of 40 (82.5%) regularly took medication for their ADHD (e.g., Concerta, Ritalin, Adderall). However, on the day of data collection, these participants were asked not to take their medication. Among the adolescents with ADHD, 32 of 40 (80%) had comorbid diagnoses. Twenty-eight adolescents were diagnosed with a comorbid Learning Disability, seven with Anxiety, three with Depression, four with Oppositional Defiant Disorder and one with Conduct Disorder. Within the comparison group, three (12.5%) were diagnosed with a Learning Disability.

As shown in Table 1, adolescents with and without ADHD did not differ in age, t(62)= 1.18, p=.24, or gender, $X^2(1, N=64)=1.14, p=.29$. Adolescents with and without ADHD did not differ with respect to their parents' marital status, $X^2(1, N=63)=1.56, p=.21$, or the likelihood that a language other than English was spoken in the home $X^2(1, N=59)=1.17, p=.68$. Parents of adolescents with ADHD were more likely to have or suspect they have ADHD (65.38 %) than parents of adolescents without ADHD (16.67 %), $X^2(1, N=50)=12.16, p<.01$. Fathers of adolescents with and without ADHD did not differ on level of education, t(59)=1.65, p=.11. However, mothers of adolescents with ADHD were more likely to have a lower level of education than adolescents without ADHD, t(59)=2.13, p=.04.

Adolescents with ADHD had a lower IQ score, t(61)=3.21, p<.01, and lower scores on all academic achievement subtests on the *Woodcock-Johnson Test of Academic Achievement-Third Edition (WJ-ACH III)* (Table 1). According to both parents and teachers, adolescents with ADHD scored significantly higher on the Conners-3 DSM Inattentive, DSM
Hyperactive/Impulsive, DSM Oppositional Defiant Disorder and Peer Relations subscales than did adolescents without ADHD.

2.2 Measures

2.2.1 Safe Schools Questionnaire

The Safe Schools Questionnaire (SSQ; Pepler, Craig, Charach & Zeigler, 1993) was used to assess parents’ perceptions and adolescents’ self-reports of experiences of victimization by peers and of bullying others. Parent and adolescent participants were asked to indicate how often the adolescent had been victimized and bullied others in a two-month period and a five-day period. For the 2 month period, the rater was asked to indicate the frequency on a 5-point scale from 0 (it hasn’t happened in the last 2 months) to 4 (several times a week). For the 5 day period, the 5-point scale ranged from 0 (not at all) to 4 (five or more times). Bullying was defined as something that “may happen often and it is hard for the student being bullied to defend himself or herself. But, it is not bullying when two students of about the same strength argue or fight”. Furthermore, participants were provided with a variety of examples of bullying behaviours including verbal (e.g., saying mean things, teasing), physical (e.g., hitting, kicking, locking inside room), relational (e.g., spreading rumours, excluding from group) and cyber (e.g., being mean using computer or phone messages). The adolescents’ self-report was important given that victimized children are likely most aware of, and impacted by, their victimization experience (Card & Hodges, 2008). The parent-report was also administered as participants tend to be reluctant to report participation in bullying others (Pellegrini, 2001). Furthermore, previous studies with children who have ADHD find that children who bully others may underreport their bullying behaviour in comparison with parent- and teacher-reports (Wiener & Mak, 2009). This measure has demonstrated adequate reliability (bully: cronbach alpha=.76; victim: cronbach alpha=.77) (Craig, 1998).

2.2.2 Conners Rating Scale- Third Edition

The Conners Rating Scale-Third Edition (Conners, 2008; Parent- Conners 3-P and Teacher-Conners 3-T) was used to confirm continuation of ADHD symptoms as well as to assess inattention, hyperactivity/impulsivity, oppositionality and peer relations. Parents and teachers
were asked to rate the adolescent on a 4-point scale from 0 (*Not at all/Seldom, Never*) to 3 (*Very Much True/Very Often, Very Frequent*). The long forms which were used in the present study are composed of 110 (Parent) and 115 (Teacher) items. The three DSM-IV subscales (DSM-IV Inattention, DSM-IV Hyperactivity/Impulsivity, DSM-IV Oppositional/Defiant Disorder) demonstrate good internal consistency (Parent: .93, .92, .91; Teacher: .94, .95, .93) and good test-retest reliability (Parent: .84, .89, .88; Teacher: .85, .84, .83). The peer relations subscales demonstrate good internal consistency (Parent: .85, Teacher: .92) and adequate test-retest reliability (Parent: .78; Teacher: .87). For participants in the ADHD group who were on stimulant medication, parents and teachers were asked to think of the individual when they were not on medication.

2.2.3 Child Behaviour Checklist

*Child Behavior Checklist (CBCL)* (Achenbach, 2001): To assess internalizing problems, the CBCL was given to parents. Parents were asked to rate the extent to which various descriptions apply to the adolescent on a 3-point scale from 0 (*Not True*) to 2 (*Very True or Very Often*). Internalizing symptoms were assessed using the empirically based Anxious/Depressed scale which has good internal consistency (.84) and test-retest reliability (.82).

2.2.4 Social Support Behaviors Scale

The *Social Support Behaviors Scale (SSBS; Vaux, Riedel & Stewart, 1987)* was used to assess adolescents’ perceptions of the social support they receive from their families and peers. Respondents indicated how likely members of their family and their friends would be to help in each of 45 identified situations. On a 5-point scale, respondents indicated their perception of available support ranging from 1 (*No one would do this*) to 5 (*Most would certainly do this*). Five modes of social support were assessed: emotional (e.g., would comfort me if I was upset), practical (e.g., would loan me equipment), financial (e.g., would pay for my lunch if I was broke) advice (e.g., would suggest a way I might do something) and social (e.g., would visit me or invite me over). Vaux and colleagues (1987) reported good internal consistency (alpha exceeding .85) for several college samples. For the current study, two questions were altered for relevancy to an adolescent population. Specifically, in the question “Would loan me a car if I
needed one” ‘bike’ was substituted for ‘car’; and in “Would buy me a drink if I was short of money” ‘drink’ was changed to ‘coffee or pop’.

2.2.5 Wechsler Abbreviated Scale of Intelligence

The *Wechsler Abbreviated Scale of Intelligence* (WASI; Weschler, 1999) is a standardized abbreviated test of intelligence. The Vocabulary and Matrix Reasoning subtests were administered in the present investigation to obtain an estimate of the adolescents’ cognitive functioning. This abbreviated IQ scale demonstrates good internal consistency (.93) and test-retest reliability (ranging from .88 to .93). The correlation with the Full Scale IQ on the WISC-III is .81.

2.2.6 Woodcock-Johnson Test of Academic Achievement- Third Edition

The *Woodcock-Johnson Test of Academic Achievement-Third Edition* (WJ-III ACH, Woodcock, McGrew & Mather, 2001) is a comprehensive standardized measure of academic achievement. Participants completed subtests assessing Mathematics (Calculation, Applied Problems), Reading (Letter-Word Identification, Passage Comprehension) and Writing (Spelling, Writing Samples). The WJ-III ACH demonstrates high internal consistency (ranging from .80 to .93 across subtests administered in present study) and test-retest reliability (ranging from .88 to .96).

2.3 Procedure

This investigation was approved by the Research Ethics Board of the University of Toronto. Participants were recruited though advertisements in community newspapers, children’s mental health centers, physicians’ and psychologists’ offices and other agencies working with adolescents with ADHD. Participants from previous studies who agreed to be contacted for future research were also informed about the study. Participants were given the option of counting their participation in the study toward their required secondary school community service hours or receiving $30.00 in cash to cover their expenses for the day. Additionally, adolescents and their parents were given an educational report describing their child’s academic, cognitive and social/emotional functioning.
Parents completed the Conners 3-P prior to the testing session. If adolescents met eligibility criteria, a package was mailed to the parents including information about the study, an adolescent assent letter, a parental consent letter and a parent consent form explaining the purpose and procedures of the study, as well as potential risks and benefits associated with the study. Parent consent and assent letters and forms are included in Appendix A. The parents were also provided with a package to be given to the teacher which included an information letter for the teacher and principal, the Conners 3-T and a self-addressed stamped envelope. The adolescent measures were administered in an individual testing session by a graduate student in the ADHD laboratory of Dr. Judith Wiener at OISE/University of Toronto. Testing sessions were approximately 5 to 6 hours and the participants were given frequent breaks. Participants completed the WASI, WJ-III ACH, SSQ, SSB and additional measures for other studies. Parents provided demographic information, and completed the CBCL and SSQ as well as additional measures for other studies. Fourteen participants were included in the present study; however, their data were collected as part of an evaluation of a Mindfulness Martial Arts intervention program. Parent-reported bullying and victimization data were not collected for these participants.
3 Results

Statistical analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 17. The data were examined for outliers, and when detected, one extreme score was adjusted using the windsorizing method.

3.1 Frequency of Victimization and Bullying in Adolescents with ADHD

Analyses of variances (ANOVAs) were conducted to examine levels of victimization by peers and bullying others in adolescents with and without ADHD. Dependent variables included adolescent self- and parent-reported levels of victimization by peers and bullying others in the last 2 months and in the last 5 days. Given that there were no significant age differences between groups and age was not significantly correlated with any of the measures of experiences of victimization by peers or of bullying others, age was not included in the following analyses. Furthermore, there were no significant gender differences in the experiences of victimization by peers or of bullying others.

As shown in Table 2, when asked about the extent to which they had experienced victimization by peers in the last 2 months, there were no group differences between adolescents with and without ADHD. However, when asked about the extent to which they had been victimized within the last 5 days, adolescents with ADHD reported significantly higher levels of victimization than comparison adolescents. Adolescents with ADHD also reported that they engaged in higher levels of bullying others in the last 2 months compared to adolescents without ADHD. However, when adolescents were asked about the extent to which they participated in bullying others in the last 5 days, there were no significant group differences.

Parents of adolescents with and without ADHD did not differ significantly in their reports of the extent to which their child experienced victimization by peers or participated in bullying others in the last 2 months or 5 days (see Table 2). However, there was a marginally significant trend for parents of adolescents with ADHD to report that their children experienced higher levels of victimization by peers within the last 2 months, F(1,16)=4.16, p=.06, $\eta^2_{p}=.21$. None of the
parents of adolescents with or without ADHD reported any participation in bullying others in the last 5 days.

To further investigate victimization by peers and bullying others among adolescents with ADHD, adolescents were categorized as “victims,” “bullies,” “bully/victims” and not involved in victimization or bullying others. Two classification procedures were used to categorize adolescents as “victims,” “bullies,” or “bully/victims.” The classification systems differed based on frequency of experiences of victimization by peers and participation in bullying. The first classification system was based on frequent experiences of bullying and produced relatively small victim and bully categories. The second classification system encompassed both frequent and infrequent victimization by peers and bullying others and produced larger group sizes. Due to the increased power, this second classification system allowed for statistical comparisons to be conducted between groups.

The first classification of “victims” and “bullies” was based on the categories of Nansel and colleagues (2001) in which “frequent” bullying/victimization was defined as once a week or more. Participants were classified as “victims” if they or their parents reported that they were bullied by others “about once a week” or “several times a week” in the last 2 months or were bullied by others “once” or more in the last 5 days. Participants were classified as “bullies” if they or their parents reported that they bullied others “about once a week” or “several times a week” in the last 2 months or bullied others “once” or more in the last 5 days. Participants were classified as “bully/victims” if they met criteria for both groups. This classification system produced four groups: “victims,” “bullies,” “bully/victims” and individuals not involved in victimization or bullying others.

The second classification system was based on whether the adolescents or their parents reported any experience of victimization by peers or of bullying others (irrespective of frequency). Participants were classified as “victims” if they or their parents reported that they were bullied by others “once or twice” or more in the last 2 months or were bullied by others “once” or more in the last 5 days. Participants were classified as “bullies” if they or their parents reported that they bullied others “once or twice” in the last 2 months or bullied others “once” or more in the
last 5 days. As above, this classification system produced four groups: “victims,” “bullies,” “bully/victims” and individuals not involved in victimization or bullying others.

Initial categorization was based on whether the adolescent or their parent reported that the adolescent had experienced victimization by peers or participated in bullying others at a rate of at least once/week. Among adolescents with ADHD, 6 (15%) were categorized as “victims”, 1 (2.5%) as a “bully”, 3 (7.5%) as “bully/victims” and 30 (75%) were not involved. Among adolescents without ADHD, no participants were categorized as a “victim” or “bully/victims”, 1 (4.2%) was categorized as a “bully” and 23 (95.8%) were not involved. When using the once/week or more criterion, the categories of experiencing victimization and bullying others were too low to conduct statistical comparisons to identify risk factors for being categorized as a “victim” or “bully” based on ADHD status.

A second set of categorizations was conducted based on whether an adolescent had experienced any victimization by peers or participated in any bullying others (irrespective of frequency) according to either adolescent self-report or parent report. Among adolescents with ADHD, 8 (20%) were categorized as “victims”, 10 (25%) as “bullies”, 9 (23%) as “bully/victims” and the remaining 13 (32%) were categorized as not involved. Among adolescents without ADHD, 4 (16.7%) were categorized as “victims”, 4 (16.7%) as “bullies”, 1 (4.2%) as a “bully/victim” and the remaining 15 (62.5%) were not involved. Again, when the sample was divided into these four categories the cell sizes were too small to conduct statistical analyses.

Lastly, adolescents were categorized as “victims” or “nonvictims” and “bullies” or “nonbullies” based on whether the adolescent or their parent reported that the adolescent had experienced any victimization by peers or participated in any bullying others (irrespective of frequency). To investigate frequency of victimization by peers and bullying others by ADHD status, 2 (ADHD status) x 2 (victim status/bully status) chi-square analyses were conducted. Seventeen (42.5%) adolescents with ADHD and 5 (20.8%) adolescents in the comparison group were categorized as “victims.” There was a marginally significant trend for adolescents with ADHD to be categorized as “victims” more often than adolescents without ADHD, \(X^2(1, N=64)=3.12, p=.08\). With respect to participation in bullying others, 19 (47.5%) adolescents with ADHD and 5 (20.8%) adolescents in the comparison group were categorized as “bullies.” Adolescents with
ADHD were significantly more likely to be categorized as “bullies” than adolescents without ADHD, $X^2(1, N=64) = 4.55, p=.03$.

### 3.2 Profiles of Victims and Bullies

The second objective was to identify characteristics that were associated with experiences of victimization by peers and of bullying others among adolescents with ADHD. Only participants with ADHD were involved in these exploratory analyses. ANOVAs were conducted to investigate group differences between “victims” vs. “nonvictims” and “bullies” vs. “nonbullies.” Categorization of “victim” and “bully” status was based on whether an adolescent had experienced any victimization by peers or participated in any bullying others. Neither of the groups (“victims” vs. “nonvictims” and “bullies” vs. “nonbullies”) differed significantly in age. Dependent variables included parent and teacher-rated peer relation problems and oppositionality and parent-rated internalizing problems. Additionally, chi-square analyses were conducted to investigate whether a diagnosis of a Learning Disability (LD) was associated with experiences of victimization by peers or participation in bullying others.

As predicted, adolescents with ADHD who were categorized as “victims” had significantly higher levels of parent-reported peer relation problems than those who had not been victimized (see Table 3). Additionally, there was a marginally significant trend for adolescents who were victimized to have higher ratings of parent-reported anxious/depressed symptoms, $F(1, 37)=3.76$, $p=.06$, $\eta^2_p=.09$, than adolescents who were not victimized. There were no significant differences between “victims” and “nonvictims” on parent-reported oppositionality and on teacher-reported peer relations. However, there was a marginally significant trend for “victims” to have higher teacher-reported oppositionality, $F (1,34)=3.11$, $p=.09$, $\eta^2_p=.08$. Chi-square analysis revealed that adolescents with ADHD who had a comorbid diagnosis of LD were not more likely to be victimized than those without LD, $X^2(1, N=40) =1.76, p=.19$. As seen in Table 3, there were no significant differences between “bullies” and “nonbullies” on parent- and teacher-reported peer relations, oppositionality or parent-reported anxiety/depression. Furthermore, an LD diagnosis had no significant association with the likelihood that adolescents with ADHD were categorized as “bullies”, $X^2(1, N=39) =.04, p=.84$. 
3.3 Social Support

The third objective was to investigate the relationship between social support, and experiences of victimization by peers and of bullying others among adolescents with ADHD. ANOVAs were conducted to determine if levels of total social support, peer social support and family social support differ between adolescents with and without ADHD. Multivariate analyses of variance (MANOVAs) were conducted on the subscales of peer and family social support to determine differences in type of social support (e.g., emotional, practical) between groups. These analyses were repeated to investigate group differences (“victims” vs. “nonvictims” and “bullies” vs. “nonbullies”) in perception of social support in adolescents with ADHD.

As shown in Table 4, adolescents with ADHD reported significantly lower levels of perceived total social support than adolescents without ADHD. There was also a marginally significant difference between genders, $F(1,55)=3.31, p=.07, \eta_p^2=.06$, such that females perceived more total social support than did males. When considering sources of social support, adolescents with ADHD perceived significantly lower levels of social support from both peers and family. Additionally, there was a significant effect of gender on peer social support, such that females perceive higher levels of social support from peers than males, $F(1,55)=4.86, p=.03, \eta_p^2=.08$. The MANOVAs conducted on subscales of social support revealed no significant effects of ADHD status on the subscales of peer or family social support. There was a significant effect of gender on the peer support subscales, $F(5,51)=3.00, p=.02, \eta_p^2=.23$.

Among the adolescents with ADHD, social support was associated with the experience of victimization by peers, but not with participation in bullying others. As seen in Table 5, adolescents with ADHD who had experienced victimization by peers perceived significantly lower levels of total social support than those who had not been victimized by their peers. There were marginally significant trends for victimized children to perceive lower levels of support from peers, $F(1,34)=3.24, p=.08, \eta_p^2=.09$, and family, $F(1,34)=3.09, p=.09, \eta_p^2=.08$. MANOVAs conducted on subscales of peer and family social support revealed no significant main effects of victimization status. Participation in bullying others among adolescents with ADHD was not associated with any measure of perceived social support.
4 Discussion

In general, the results of the present study indicate that, according to their own reports, adolescents with ADHD are more likely to be victimized by peers and to engage in bullying others than adolescents without ADHD. Parent-reported victimization by peers and bullying others did not differ between adolescents with and without ADHD. Among adolescents with ADHD, victimization by peers was more strongly associated with social contextual factors, such as social support and peer relation difficulties, than individual characteristics. Adolescents with ADHD who were victimized by peers perceived lower levels of social support. Furthermore, victimized adolescents had higher levels of peer relation difficulties than adolescents with ADHD who were not victimized. Individual factors, such as internalizing problems and oppositionality, showed some association with victimization. Social contextual factors and oppositionality were not associated with participation in bullying others among adolescents with ADHD in the present study.

4.1 Frequency of Victimization and Bullying

The first objective of the present study was to investigate the frequency of experiences of victimization by peers and of bullying others among adolescents with ADHD. As hypothesized, adolescents with ADHD reported statistically significantly higher levels of victimization by peers and bullying others than adolescents without ADHD; however, group differences depended on the period of time considered. When asked about victimization by peers, adolescents with ADHD reported increased victimization in the last 5 days, but not in the last 2 months. With regard to their participation in bullying others, adolescents with ADHD reported increased levels of bullying others in the last 2 months, but not in the last 5 days. It is possible that for victimization by peers, it is easier for adolescents to recall their experience in the last 5 days than over a 2 month period. In terms of bullying others, they may be willing to admit that they participate in bullying others, but try to downplay the severity by indicating general patterns rather than recent behaviour.

The present finding that adolescents with ADHD are at increased risk to experience victimization by peers is consistent with previous research indicating that children with ADHD
and samples comprising children and adolescents with ADHD reported increased levels of victimization by peers (Wiener & Mak, 2009; Tymann et al., 2010). Results of research investigating self-reported participation in bullying others among children and adolescents with ADHD are inconsistent. In some instances, children with ADHD do not report increased levels of participation in bullying others while their parents and teachers do report that they bully others more often (Wiener & Mak, 2009). Other research conducted with combined samples of children and adolescents show that ADHD does predict self-reported participation in bullying others (Tymann et al., 2010). The present findings that adolescents with ADHD reported higher levels of participation in bullying others than adolescents without ADHD suggests that there may be a developmental progression such that the willingness to report participation in bullying others increases with age. This hypothesis is consistent with findings from typically developing populations which indicate that self-reported levels of bullying others tend to increase from elementary school through to high school (Vaillancourt et al., 2010).

Parents of adolescents with ADHD did not report increased levels of victimization by peers or participation in bullying others compared to parents of adolescents without ADHD. This is contrary to predictions based on research with children in which parents of children with ADHD did report increased participation in bullying others (Wiener & Mak, 2009). It is possible that parents of adolescents are less aware of their children’s experiences of victimization by peers and bullying others than they are of younger children’s experiences. However, given that parent-report data were available for only 19 of the participants, it is possible that parents are accurate reporters of adolescents’ experiences, but group differences were not detected due to low statistical power.

4.2 Individual characteristics associated with Bullying

The second objective was to identify individual characteristics associated with the experience of victimization by peers and of bullying others among adolescents with ADHD. As predicted based on previous research (Shea & Wiener, 2003; Taylor et al., 2010), adolescents with ADHD who had experienced victimization by peers had higher levels of parent-reported peer relation problems than those who had not experienced victimization. The effect size for this difference was in the large range. Peer relation problems were assessed using the Conners 3-P Peer Relations subscale which contains items that reflect the adolescents’ social context and
individual social skills. For example, social context items include “has no friends”, “has trouble keeping friends”, “does not get invited to play or go out with others” and “is one of the last to be picked for teams and games”. Items that reflect the adolescents’ individual social skills include “does not know how to make friends” and “interacts well with other children”. Thus, the parent-reported peer relations difficulties associated with victimization by peers among adolescents with ADHD may be indicative of individual social skill deficits or contextual variables such as lack of friendship group and infrequent social interaction.

Adolescents with ADHD who were victimized by peers tended to have higher levels of parent-reported internalizing problems. While the effect size for this difference was in the medium range, victimized and nonvictimized youth did not differ significantly on internalizing problems, as was predicted based on the literature (e.g., Card & Hodges, 2008). This may be due to low statistical power or variability in frequency and severity of victimization experiences within the “victim” category. Adolescents with ADHD also tended to have higher levels of teacher-rated oppositionality. It is possible that some behaviours exhibited by adolescents with ADHD (e.g., interrupting, talking out of turn) that are associated with the social difficulties reported by parents may be seen as oppositional by teachers. Teacher ratings of oppositionality have been shown to be higher for children exhibiting ADHD symptoms than children exhibiting normal behaviour (Jackson & King, 2003). Among adolescents with ADHD, those with a comorbid LD were no more likely to be victimized. In the literature discussing victimization by peers among youth with LD, the factors associated with increased risk of being victimized are similar for youth with LD and ADHD (e.g., social problems, internalizing problems) (Mishna, 2003). Thus, an LD diagnosis in and of itself may present no additional risk for being victimized over and above ADHD and associated problems.

There were no aspects of peer relations, internalizing problems or oppositionality based on both parent and teacher reports that differentiated youth who bullied others from “nonbullies” among adolescents with ADHD. This differs from our predictions and previous research conducted in children indicating that parent-rated oppositionality mediated that association between ADHD symptomatology and participation in bullying others (Wiener & Mak, 2009). This finding also contradicts previous research indicating that youth who bully have increased levels of
depression, but is consistent with findings that they have equivalent levels of anxiety to those who do not participate in bullying others.

4.3 Social Support and Bullying

The third objective was to investigate the relationship between social support and bullying among adolescents with ADHD. As hypothesized, adolescents with ADHD perceived lower levels of total social support than adolescents without ADHD. When sources of social support were investigated, adolescents perceived less social support from peers compared to adolescents without ADHD. This is consistent with previous research showing that male children with characteristics of ADHD perceived less overall social support and those with extreme ADHD behaviours perceived less social support from classmates and close friends (Demaray & Elliott, 2001). In the present study, adolescents with ADHD perceived lower levels of social support from parents than adolescents without ADHD. This is inconsistent with previous research indicating that children with ADHD characteristics and extreme ADHD characteristics did not differ from the comparison group in levels of perceived social support from parents (Demaray & Elliott, 2001).

Among adolescents with ADHD, individuals who had experienced victimization by peers perceived lower levels of total social support, as well as lower levels of social support from peers and families. Despite effect sizes in the medium range however, the trends for peer and family social support did not achieve significance, possibly due to small sample size. This is partially consistent with predictions and previous research, which indicated that victimized youth perceive lower overall social support and social support from peers, but do not differ from those who are not victimized in their perceptions of social support from parents (Demaray & Maleck, 2003). However, this previous research on bullying and social support has been conducted in typically developing children; therefore the decreased perception of social support from families among adolescents with ADHD may be related to the difficulties and stresses of raising a child with ADHD (Johnston & Mash, 2001). There were no significant group differences in the type of social support (e.g., practical, advice, emotional) based on ADHD or bully/victim status. Thus, while ADHD status and victim status were related to levels of perceived social support from peers and families, there appears to be a large amount of individual, not group, variation in perceptions of domain specific social support.
Participation in bullying others was not associated with any differences in perceived social support. This is partially consistent with predictions based on previous research that youth who bully would perceive lower overall social support and lower social support from families, but would not differ in terms of social support from peers (Demaray & Malecki, 2003). Consistent with previous research, the present investigation showed that females perceived higher total social support and social support from peers (Demaray & Malecki, 2002).

The present findings indicate that social contextual factors such as parent-rated peer relation problems and adolescents’ perceptions of social support are more strongly associated with experiencing victimization than individual factors. Individual factors, such as internalizing problems, showed trends toward being associated with victimization by peers. Given the increased importance of peer group interactions during adolescence, it is possible that social factors have a stronger relationship with victimization than individual factors for adolescents with ADHD.

4.4 Limitations and Implications for Future Research

The findings of this study are limited by the brevity of the peer victimization measure. The Safe Schools Questionnaire is a brief measure that assesses frequency of victimization by peers and participation in bullying others in general. Additional research investigating how different aspects of bullying (e.g., physical, relational, cyber bullying) are associated with ADHD is important. Various types of bullying may be differentially associated with individual and social risk factors and psychosocial consequences among adolescents with ADHD. This is especially probable in light of the qualitative research indicating that boys with ADHD experience social exclusion as a more salient and distressing form of peer harassment (Shea & Wiener, 2003). An understanding of how gender and ADHD are associated with different types of bullying will inform the development of strategies to decrease the prevalence of these problematic experiences.

In the present sample, information from parents about their adolescents’ experience with victimization by peers and bullying others was available for only 19 of the participants. As such, it is difficult to determine if the lack of significant differences between adolescents with and without ADHD in terms of parent-reported bullying is due to low sample size or a developmental
shift in parents’ awareness of their children’s social experiences. Given the discrepancies between self-reported and parent-reported participation in bullying others in children with ADHD (Wiener & Mak, 2009), more complete parent-report data may have contributed to our understanding of the parents knowledge of bullying during adolescence.

The sample size of the present study also prevented investigating the psychosocial characteristics of adolescents who experience frequent victimization by peers or participation in bullying others. Statistical analyses could only be conducted to compare participants with no experience to those that had any experience with victimization by peers or with bullying others. Clinically, it is important to also understand the characteristics of the small subset of adolescents who experience more frequent victimization and bullying (e.g. once/week). This is especially relevant to adolescents with ADHD who were overrepresented in these categories.

The present study did not identify any individual characteristics (e.g., hyperactivity, oppositionality, internalizing problems) or social circumstances (e.g., social support, social problems) that differentiate youth who bully others from those that do not among adolescents with ADHD. Previous research (e.g., Taylor et al., 2010) has examined at psychosocial profiles of victimized youth and predictors of participation in bullying others have been examined in childhood populations (Wiener & Mak, 2009). Future research should aim to identify behavioural and psychosocial risk factors associated with participation in bullying others among adolescents with ADHD. Additionally, the existing research on victimization by peers, bullying others and ADHD has been primarily focused on risk factors. Identification of protective factors that buffer against victimization, bullying others and the associated consequences will aid our understanding and provide a basis for interventions for youth with ADHD.

Given the strong association between social variables and victimization by peers in the present study and previous research, an in depth understanding of the social mechanisms associated with victimization by peers and bullying others in ADHD is essential. The association between friendships and victimization among adolescents with ADHD may be an important area of research. Investigations should be conducted examining how various characteristics of friendship (e.g., quantity, quality, longevity) are associated with victimization in adolescents with ADHD.
Additionally, researchers have highlighted the importance of understanding the social-cognitive mechanisms underlying the social problems associated with ADHD (Hoza et al., 2005). It is possible that empathy and social perspective taking are two of the social-cognitive mechanisms that contribute to the association between ADHD, and victimization and bullying. According to parent-reports, children with ADHD are less empathic and use less advanced social perspective taking skills than children without ADHD (Marton et al., 2008). Within the bullying literature, low levels of empathy have been associated with participation in bullying (Ang & Goh, 2010; Olweus, 1995). Furthermore, inadequate insight into how their behaviour is interpreted by others has been hypothesized as a factor associated with experiences of victimization by peers among children with ADHD (Shea & Wiener, 2003). Assessing the social-cognitive mechanisms associated with victimization by peers and bullying others may aid clinicians in identifying behaviours to serve as targets for social skill development in individuals with ADHD.

4.5 Clinical Implications

These findings regarding the social support, social problems, bullying others and experiences of victimization by peers among youth with ADHD have important implications for professionals working with these adolescents. While hyperactive-impulsive symptoms of ADHD often remit in adolescence, the present findings indicate that social problems, victimization by peers and bullying others continue from childhood. Additionally, individuals working with adolescents who have ADHD and experience victimization by their peers must consider the possibility of psychosocial difficulties (e.g., social and internalizing problems) associated with the experience of victimization. Given the negative factors associated with victimization by peers and with bullying others in this study and previous research, an awareness of an adolescent’s experience with victimization by peers and with bullying others is an essential element of a comprehensive assessment. School psychologists and other professionals should regularly assess whether children and adolescents are being victimized by peers or participating in bullying others. The Safe Schools Questionnaire is a brief screening measure that could be used as a part of the assessment process to detect frequency of victimization by peers and bullying others.

The decreased perceptions of social support among adolescents with ADHD are significant given the association between social support and various aspects of well-being. Perceptions of social support have been positively correlated with increased self concept and academic competence,
and decreased problem behaviours, internalizing and externalizing problems (Demaray & Malecki, 2002). Additionally, the findings that ADHD in adolescence is associated with both decreased perceptions of social support and increased experience with victimization by peers is important as these are both risk factors for maladjustment. In adolescence, being victimized and having low social support are significant predictors of various aspects of well-being (somatic symptoms, social functioning, internalizing problems, suicidal ideation) and the presence of both of these risk factors is associated with problems in psychosocial development (Rigby, 2000; Ridby & Slee, 1999). The present study highlights the significant social difficulties continue from childhood to adolescence for individuals with ADHD.

In conclusion, the present study found that adolescents with ADHD are at increased risk of being victimized by peers and participating in bullying others. Being victimized by peers was more strongly associated with social contextual factors, such as social support and peer relation difficulties, than with individual characteristics. Future research should aim to further investigate the social-cognitive mechanisms and social environments of adolescents with ADHD who experience victimization by peers and participate in bullying others. Given the detrimental consequences associated with experiencing victimization and bullying others, clinicians working with this population should be aware of their clients’ involvement in bullying.
References


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## Tables

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Descriptive Information about Sample

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* p<.05, **p<.01
Table 2
Frequency of Victimization and Bullying

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*a cannot be computed because means for both groups are 0.
*p<.05
Table 3

Parent- and teacher-reported characteristics of Victims and Bullies (ADHD only)

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<th>p</th>
<th>Eta</th>
<th>Bullies</th>
<th>Nonbullies</th>
<th>F(1,37)</th>
<th>p</th>
<th>Eta</th>
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<td>n=39</td>
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<td>C3-P Peer Relations</td>
<td>76.18 (12.41)</td>
<td>63.82 (15.04)</td>
<td>7.51**</td>
<td>&lt;.01</td>
<td>.17</td>
<td>71.84 (15.72)</td>
<td>66.70 (14.46)</td>
<td>1.13</td>
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<td>67.59 (11.69)</td>
<td>1.94</td>
<td>.17</td>
<td>.05</td>
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<td>59.32 (9.11)</td>
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<td>.09</td>
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*p<.05, **p<.01
a df = 1,34
### Table 4

**Perceptions of Social Support by ADHD status**

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<td>1,55</td>
<td>4.46**</td>
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<tr>
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*p<.05, **p<.01*
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<th>Nonvictims M (SD)</th>
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<th>F</th>
<th>p</th>
<th>Eta</th>
<th>Bullies M (SD)</th>
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<td>3.93 (.54)</td>
<td>1,34</td>
<td>3.24</td>
<td>.08</td>
<td>.09</td>
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<td>3.84 (.52)</td>
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*p<.05, **p<.01
a df = 1,34
Appendix

Appendix A: Parent Consent letter, Parent Consent form and Adolescent Assent Letter

PARENTAL CONSENT LETTER

Dear Parent:

My name is Dr. Judith Wiener. I am a Professor in the Department of Human Development and Applied Psychology at the Ontario Institute for Studies in Education of the University of Toronto (OISE/UT). I am writing to ask your permission for your adolescent to participate in a research project that I am conducting with my colleagues (Dr. Rosemary Tannock, Dr. Tom Humphries, Dr. Molly Malone, and Dr. Martinussen) about adolescents with Attention Deficit/Hyperactivity Disorder (ADHD). For this, we need the participation of adolescents who have been previously been diagnosed with ADHD as well as normally functioning adolescents.

Purpose of the Research

The purpose of this research to enhance our understanding about the self-perceptions of adolescents’ with ADHD including their self-esteem and self-concept, their beliefs regarding ADHD and about behaviors that commonly occur with ADHD, and their perceptions of their social relationships. Currently, little research exists on these areas of study. We believe that gaining a better understanding of the self-perceptions of adolescents with ADHD will help mental health professionals provide better services and develop appropriate interventions for them. This study is funded by the Social Sciences and Humanities Research Council of Canada.

Description of the Research

If you agree to allow your son/daughter to participate, my research assistants, who are graduate students in school and clinical child psychology, will work with him/her for a period of 5 to 6 hours in a quiet room at OISE/UT. He or she will complete a standardized educational test (Woodcock Johnson-Third Edition) that is recognized as being a valid measure of achievement in reading, writing and mathematics, and a brief cognitive measure (Wechsler Abbreviated Scale of Intelligence). He or she will also fill out several questionnaires designed to assess self-esteem, self-concept, peer relationships, social support, and problem behaviors that commonly occur with ADHD. He or she will also be asked to look at pictures with a teenager in them engaging in
various behaviors characteristics of teens with ADHD and asked whether they are like the teenager in the picture. This will be followed up with an interview about his/her beliefs about why this behavior is a problem, how controllable it is, how often it occurs, and whether it bothers other people. A similar interview will then be conducted about his or her beliefs about ADHD. The results of these measures will be used for research purposes only in the context of this study. We would need your permission and signed consent should you need to send these test scores to another professional involved in your case. With your permission we will also send the teacher who knows your son/daughter well a rating scale to complete. This rating scale assesses for symptoms of ADHD and other disorders. The results of the educational and cognitive measures will be interpreted by a registered psychologist and be communicated to you in a written report. We will not be able to provide you with your adolescent’s responses on some of the questionnaires and interviews, because they were developed for the purpose of the research and we will not know what individual adolescent’s scores mean until the data are collected and analyzed from all of the participants.

Benefits
The direct benefit of this study is that you will receive a report on your son/daughter’s educational and social-emotional functioning with specific recommendations for accommodations/intervention at a secondary or college/university level. We believe that the study may also indirectly benefit adolescents with ADHD. More specifically, enhanced knowledge about adolescents’ self-perceptions and beliefs about ADHD and ADHD-related behaviors may provide important information for parents, teachers, and clinicians working with them.

Potential Harms and Withdrawal
There are no known harms associated with participation in the study. The only potential risk is that your son/daughter may feel some discomfort when talking about his/her behavior. We will clearly inform him/her that he/she may decline to participate and that if he/she decides to participate, he/she may skip any questions, request a break, or withdraw from the study at any time. Following the session, if you find the discomfort to be more than minor, please contact us so that we can discuss how to provide support for him/her. In addition, should we feel, during or
after the session 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.

Confidentiality
Confidentiality will be respected and no information that discloses the identity of the participants will be released without consent unless required by law. For your information, all research files will be stored in locked files at OISE/UT. The results of the tests described above will be used for research purposes only. We would need your permission and signed consent should you need to send these scores to another professional.

The data we collect will be analyzed and stored in locked files in a locked office. The data will be retained at OISE/UT in locked files for 10 years. Your name and that of your son/daughter will be deleted and replaced by a number when filed in order to assure anonymity. In these ways, the information provided by you, your son/daughter and his/her teacher will be kept confidential. The one exception to this is in the event that your adolescent indicates that he/she might do serious harm to him/herself or others, or that he/she is being harmed. If that were to happen, as required by law, we would inform you and appropriate mental health, child protection, or law enforcement professionals.

When the results of this research are published in the form of scholarly presentation and/or academic journal/books, only group data will be presented, ensuring that it will be impossible for anyone to identify you or your son/daughter.

Compensation
Participation in research is voluntary. If your son/daughter chooses to participate in this study, he/she will receive $30 to defray expenses. If he/she is in high school, he/she may alternatively opt to count his/her participation in the study toward his/her community service hours; in this case, a certificate attesting to his/her participation would be provided. As mentioned above, you will also receive a report of your adolescent’s academic and social emotional competencies.
**Access to Results**

The results of this research will be shared in the form of a summary report upon completion of the study. We are in the process of developing a website on which we will place all relevant information and will contact you about this when it is ready.

You may contact Dr. Judith Wiener, Angela Varma, or Heather Prime with any questions you may have about the study, and all of your inquiries will be addressed.

Sincerely,

__________________________

Angela Varma, M.A.
Ph.D. Student
(416) 978-0933

__________________________

Heather Prime
Lab Manager
(416) 978-0933

__________________________

Judith Wiener, Ph. D
Program Chair
(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
PARENTAL 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 the personal identity of my son/daughter 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 my adolescent at any time.”

I hereby consent for my son/daughter to participate.

__________________________________  __________________________________
Name of Parent                      The person who may be contacted about this research is:
__________________________
Signature

__________________________________
Date

__________________________________
Name of person who obtained consent

__________________________
Signature

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

__________________________________
Signature of parent

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

__________________________________
Signature of parent
ADOLESCENT ASSENT SCRIPT

Why are we doing this study?
My Professor and I are doing a research project on teenagers with ADHD. We are interested in finding out about how teenagers who have been given a previous diagnosis of ADHD think about their behaviours. We also want to know about their self-esteem and their social relationships. We want to learn more about the beliefs that teenagers have about ADHD and about some of their behaviours that commonly occur with ADHD. We believe that knowing how teenagers think about their behaviours and about their ADHD is important, so that people like teachers, parents, and other professionals can consider their beliefs when they try to help them. I am asking you to participate in this research, because I believe that your feelings and opinions are valuable information.

What will happen during the study?
If you take part in this study today, it will take approximately 5 to 6 hours. I will ask you to answer some questions about yourself, such as what you think about your behaviours, and about ADHD. I will read the questions to you if you want. Sometimes I will write the answers down for you and sometimes you will have to check off or circle an item on a form. Your answers to these questions will help me understand how you think about your behaviours and about ADHD. I will also ask you to look at some pictures with a teenager in them behaving in different ways and ask you to tell me which of the pictures are like you. I will ask you about your beliefs about those behaviours. We will also do some reading, writing, and math activities. Since you are here for a few hours, we will take a few breaks including a lunch break.

Your mother/father filled out a rating scale before you came in. I am also going to send a rating scale for your teacher to fill out.

Who will know about what I did in the study?
Do you know what confidentiality is? It means that everything you tell me today will stay between you, myself, and Dr. Wiener, who is my Professor. My Professor and I will analyze it, talk about it at meetings, and write about it, so that parents, teachers, and doctors can learn from
what we have found. The questionnaires will not have your name on them. A number code will be used in place of your name. Because I am working with many teenagers on this project, people hearing my presentations or reading what I write will not know which teenager said what. When I do this, I will not tell anyone your name or give any information that could help them know who you are.

For the reading, writing, and math activities and the other questionnaires, I will not tell your parents the specific answers that you gave to the questions. But I will write a report about how you did and mail it to them.

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. In that case, I would have to tell your parents and make sure you get help. Otherwise, everything you tell me is kept confidential.

**Participation in this study is your choice.**

Before you came here, your mother/father signed a letter saying that she/he agrees for you to be in the study, but you don’t have to participate if you don’t want to. If you say you will take part and then change your mind, that is okay. You can decide at any time to stop taking part in the study.

If you do decide to take part in the study, you can choose between getting $30.00 for your participation, or, (for participants in high school), the time you spend here can count towards your community service hours, which we will provide a certificate for.

**Are there good things and bad things about the study?**

There are no bad things about the study. The only thing that might happen is that you may feel 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 tell me that you want to stop, skip the question, or that you need a break and want to continue some other time.
A good thing about 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.

Finally, your answers to the questions from the reading, writing, and math activities and the questionnaires will help me know what your strengths are and what areas you need to work on a little bit more. Knowing these types of things is important, because they can help your parents and teachers understand how to help you do better in school and will help you figure out what you can do for yourself.

**How do I find out the results of the study?**

If you want information about the results of this research when it is completed, you can check the website we are making for the research. We will let your parents know when it is ready. Your name will not be in the report, but it will give you an idea of how other teenagers think and feel about their behaviours and about ADHD.

Do you have any questions?

Do you agree to participate in this research?

“I was present when ____________________________ read this form and gave his/her verbal assent to participate in this study.”

Name of person who obtained assent:

_________________________________________

_________________________________________

Signature  Date
Appendix B: Safe Schools Questionnaire (adolescent and parent version)

SAFE SCHOOL QUESTIONNAIRE (Adolescent Version)

On this page are some questions about bullying. We say that a student is bullied when another student or a group of students…

- Say nasty and mean things to him/her or tease him/her a lot.
- Hit, kick, threaten, or lock him/her inside a room.
- Tell lies, spread false rumors or try to make other students dislike him/her.
- Completely ignore or exclude him/her from their group or leave him/her out of things in purpose.
- Are mean and negative using computer, e-mail or phone text message.

These things may happen often and it is hard for the student being bullied to defend himself or herself. But, it is not bullying when two students of about the same strength argue or fight.

There are several answers next to each question. Read each one carefully and circle the answer that best describes what is right for you. Remember that the questions refer to things that have happen to you in the last 2 months.

1. How often have you been bullied at school in the last 2 months?
   0  it hasn’t happened in the last 2 months
   1  is has only happened once or twice
   2  more than once or twice (now and then)
   3  about once a week
   4  several times a week

2. About how many times have you been bullied in the last five days at school?
   0  not at all
   1  once
   2  twice
   DON’T INCLUDE THE WEEKEND.
   3  three or four times
   4  five or more times
3. How often have you taken part in bullying other students in the last 2 months?
   0  I haven’t bullied other students at school in the last 2 months
   1  once or twice
   2  more than once or twice (now and then)
   3  about once a week
   4  several times a week

4. How often have you taken part in bullying other students in the last five days at school?
   DON’T INCLUDE THE WEEKEND.
   0  not at all
   1  once
   2  twice
   3  three or four times
   4  five or more times
SAFE SCHOOL QUESTIONNAIRE (Parent Version)

On this page are some questions about bullying. We say that a student is bullied when another student or a group of students…

- Say nasty and mean things to him/her or tease him/her a lot.
- Hit, kick, threaten, or lock him/her inside a room.
- Tell lies, spread false rumours or try to make other students dislike him/her.
- Completely ignore or exclude him/her from their group or leave him/her out of things in purpose.
- Are mean and negative using computer, e-mail or phone text message.

These things may happen often and it is hard for the student being bullied to defend himself or herself. But, it is not bullying when two students of about the same strength argue or fight.

There are several answers next to each question. Read each one carefully and circle the answer that best describes what is right for your child. Remember that the questions refer to things that have happen to your child in the last 2 months.

1. How often has your child been bullied at school in the last 2 months?
   - 0 it hasn’t happened in the last 2 months
   - 1 is has only happened once or twice
   - 2 more than once or twice (now and then)
   - 3 about once a week
   - 4 several times a week

2. About how many times has your child been bullied in the last five days at school?
   - 0 not at all
   - 1 once
   - 2 twice
   - DON’T INCLUDE THE WEEKEND.
   - 3 three or four times
   - 4 five or more times
3. How often has your child taken part in bullying other students in the last 2 months?

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</tr>
<tr>
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<td>once or twice</td>
</tr>
<tr>
<td>2</td>
<td>more than once or twice (now and then)</td>
</tr>
<tr>
<td>3</td>
<td>about once a week</td>
</tr>
<tr>
<td>4</td>
<td>several times a week</td>
</tr>
</tbody>
</table>

4. How often has your child taken part in bullying other students in the last five days at school?

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>not at all</td>
</tr>
<tr>
<td>1</td>
<td>once</td>
</tr>
<tr>
<td>2</td>
<td>twice</td>
</tr>
<tr>
<td>3</td>
<td>three or four times</td>
</tr>
<tr>
<td>4</td>
<td>five or more times</td>
</tr>
</tbody>
</table>

DON’T INCLUDE THE WEEKEND.