

Running head: PEER VICTIMIZATION, ACADEMIC ACHIEVEMENT, and SCHOOL  
ATTENDANCE

Examining the Temporal Sequence of Peer Victimization, Academic Achievement, and School  
Attendance

Refa Laith

Thesis supervisor: Tracy Vaillancourt

Thesis submitted to the  
Faculty of Graduate and Postdoctoral Studies  
in partial fulfillment of the requirements  
for the Master of Arts in Counselling Psychology degree

Faculty of Education  
University of Ottawa

© Refa Laith, Ottawa, Canada, 2019

## **Dedication**

This thesis is heartily dedicated to my mother whose support, encouragement, and constant love have made all this possible. Thank you for giving me the courage to reach for the stars and chase my dreams.

### **Acknowledgements**

This thesis would not have been possible without the guidance and the support of several people who in some way or another contributed in the completion of this research. First and foremost, it is a pleasure to express my sincere gratitude to Dr. Tracy Vaillancourt, my supervisor, whose guidance, dedication, and immense knowledge have helped bring this project to fruition. I am honored to be a member of your Brain and Behaviour Lab.

I would like to express my sincere thanks to the members of my thesis committee, Dr. Cristelle Audet, Dr. Jessica Whitley, and Dr. Nicholas Ng-A-Fook, for their insightful feedback in this process. I also wish to acknowledge my internship supervisor, Sharon Aron, for providing me with a bridge between academic studies and professional practice.

I wish to express my deepest and most heartfelt gratitude to my parents, Wafa Polies Asmaro and Laith Matloob, for their unfailing support, encouragement, and unwavering confidence in me throughout my years of study and through the process of writing this thesis. Thank you to my sister, Rita Laith, for reading through the many, many drafts of this thesis. I am deeply thankful and blessed for the wisdom that you have passed on and the love you shared. Thank you for standing by my side when times get hard, and for making me laugh when I didn't even want to smile. I am grateful to my brother, Ryan Laith, whose brilliant mind and generous dose of humour kept me going on my path to success. This accomplishment would not have been possible without you; thank you.

## Table of Contents

Abstract.....	vi
Introduction.....	1-16
Peer Victimization.....	2-5
The Link between Peer Victimization and Academic Achievement.....	5-10
The Effect of Peer Victimization on School Attendance.....	10-13
The Link between Academic Achievement and School Attendance.....	13-15
Peer Victimization, Academic achievement, and School Attendance.....	15-16
Research Objectives.....	16-17
Present Study.....	17-18
Methodological Framework.....	18-19
Methodology.....	19-20
Participants and Procedure.....	19-20
Measures.....	20-22
Peer Victimization.....	20-21
School Absences.....	21
Academic Achievement.....	21-22
Control Variables.....	22
Statistical Analysis.....	22-23
Results.....	23-26
Descriptive Statistics.....	23-24
Cross-Lagged Model.....	24
Sex Differences.....	24
Self-Perceived Peer Victimization.....	24-25
School Absences.....	25
Academic Performance.....	25-26
Control Variables.....	26
Indirect Effects.....	26
Discussion.....	26-31
Stability.....	26-27
Concurrent Associations.....	27-29

Cascade Model.....	29-31
Conclusion.....	31-32
Strengths and Limitations.....	32-34
Contribution to Research.....	34-36
References.....	37-60
Tables.....	61-64
Figures.....	65-67

### Abstract

The majority of research on bullying has focused on children's mental and physical health. There has been little research examining the longitudinal association between peer victimization, academic achievement, and school attendance with a specific focus on the temporal sequence linking the variables together. Participants (n= 654) were selected from 51 randomly selected elementary schools and were assessed annually from 5<sup>th</sup> to 12<sup>th</sup> grade. Results revealed a complex pattern of associations that were moderated by sex. Positive relationships with peers were the most important for school success for girls, with peer victimization in 8<sup>th</sup> grade predicting decreased GPA and increased absences in 9<sup>th</sup> grade. Age-related patterns in response to bullying were also found with elementary school-aged boys at increased risk of poor academic outcomes in response to peer victimization (being bullied in 7<sup>th</sup> grade predicted decreased GPA in 8<sup>th</sup> grade), compared to secondary school-aged boys (being bullied in 10<sup>th</sup> grade predicted higher GPA in 11<sup>th</sup> grade). A mediation model showed that being absent from school in 9<sup>th</sup> grade predicted lower grades in 10<sup>th</sup> grade which in turn predicted increased peer victimization in 11<sup>th</sup> grade; however, when tested for gender differences, the indirect effect was only significant for boys. Problems associated with underachievement were the most notable for secondary school-aged girls, with poor academic outcomes in 9<sup>th</sup> grade predicting increased peer victimization in 10<sup>th</sup> grade. The results have important implications for teachers, school administrators, and policy makers on how to identify and reduce peer victimization and ameliorate academic achievement.

**Keywords:** Peer victimization - Academic functioning - Longitudinal - Cascade modeling

### The Temporal Sequence of Peer Victimization, Academic Achievement, and School Attendance

Bullying is a widespread phenomenon affecting approximately 246 million children and adolescents worldwide over the course of an academic year (UNESCO, 2017). Canada has the fifth highest rate of bullying among economically advanced countries (UNICEF, 2017) with 37.6% of children and adolescents between the ages of 8 and 19 targeted each school year (Vaillancourt et al., 2010a). Although being victimized by one's peers has been repeatedly linked to poor academic achievement (Nakamoto & Schwartz, 2010) and school absenteeism (Smith, Talamelli, Cowie, Naylor, & Chauhan, 2004), little is known about the temporal sequence between these variables, with a specific focus on the role of peer victimization. It remains to be seen whether peer victimization brings about poor academic outcomes, thereby leading to school absenteeism, whether peer victimization leads to school absenteeism which then predicts poor academic outcomes, or whether poor academic outcomes increase the risk of being targeted by peers.

The right to education, based on the National Economic and Social Rights Initiative, refers to a safe learning environment that helps children prepare for their role in society. In 1948, the United Nations General Assembly adopted the Universal Declaration of Human Rights (UDHR) that outlines the fundamental rights and freedom of individuals. The declaration states that "everyone has the right to education" (UDHR, Article 26.1) and "education shall be directed to the full development of the human personality and to the strengthening of respect for human rights and fundamental freedoms" (UDHR, Article 26.2).

In 1989, the General Assembly of the United Nations adopted the Convention on the Rights of the Child (CRC) which includes children's civil rights, as well as political, economic, social, and cultural rights. The Convention on the Rights of the Child emphasizes the state's obligation to "take measures to encourage regular attendance at schools and the reduction of drop-out rates" (CRC, Article 28.1.e) and to ensure "the development of the child's personality, talents and mental and physical abilities to their fullest potential" (CRC, Article 29.1.a). The Universal Declaration of Human Rights and the Convention on the Rights of the Child both emphasize the right to an adequate education that is free of violence and discrimination. Bullying is a global health problem that often prevents children and adolescents from achieving their fundamental right to education.

Exposure to bullying in educational settings interferes with children's and adolescents' right to education. Children who experience bullying are at greater risk of academic underachievement (Steward, Steward, Blair, Jo, & Hill, 2008; Gottfried, 2009) and school absenteeism (Dunne, Sabates, Bosumtwi-Sam, & Owusu, 2013). Among the most economically advanced nations in the world, Canada has the sixth highest rate of school absence with 26% of 15-year-old students missing school, skipping classes, or arriving late to class on a regular basis (OECD, 2003).

Several researchers have focused on the link between peer victimization and academic achievement (Nakamoto & Schwartz, 2010; Van der Werf, 2014). Fewer researchers, however, have examined the longitudinal links between peer victimization, academic achievement, and school attendance. Since peer victimization is related to poor academic achievement (Nakamoto & Schwartz, 2010) and poor academic outcomes are associated with school absenteeism (Kearney & Bensaheb, 2006), it is important to examine the temporal sequence between peer victimization, academic achievement, and school attendance.

To gain a better understanding of this relationship, the first section of the literature review focuses on peer victimization. The subsequent sections focus on the links between peer victimization and academic achievement, peer victimization and school attendance, and academic achievement and school attendance.

### **Peer Victimization**

Aggressive behaviour has been used throughout centuries to gain power (McDonald, Navarrete, & Van Vugt, 2012), earn high social status (Volk, Camilleri, Dane, & Marini, 2012), and increase the likelihood of one's survival and reproductive success (Lindenfors & Tullberg, 2011). Bullying is a subtype of aggressive behaviour (Salmivalli, 2010) that is characterized by repetition, power imbalance, and intentionality (Vaillancourt et al., 2008). Specifically, bullying involves a person with greater power repeatedly using aggression against a person with less status with an intention to cause harm (Olweus, 1993). The common forms of bullying that children and adolescents may experience are physical, verbal, relational, and cyber.

A person can be a target of both overt and covert forms of bullying (Bradshaw, Waasdorp, & Johnson, 2014; Nelson, Kendall, Burns, & Schonert-Reichl, 2015). Overt forms of bullying include physical aggression such as punching or hitting someone (Byers, Caltabiano, & Caltabiano, 2011) and direct verbal aggression such as name-calling, teasing, and threatening

someone verbally (Ando, Asakura, & Simons-Morton, 2005). Covert bullying refers to indirect forms of aggression that are used to manipulate or disrupt relationships and friendships within a group (Archer & Coyne, 2005); these are often difficult to recognize (Barnes et al., 2012), and may include relational and cyberbullying (Byers et al., 2011). Relational forms of bullying include gossiping, spreading rumors, exposing secrets about another person, or excluding a person from a group (Cross, Shaw, Hearn, Epstein, & Monks, 2009). Cyberbullying involves sending or posting hurtful texts or images using electronic forms of contact (Li, 2006; Willard, 2004).

Several researchers have found gender differences in bullying (Scheithauer, Hayer, Petermann, & Jugert, 2006) with greater use of indirect or relational forms of bullying among girls (Rivers & Smith, 1994; Archer, 2004; Vaillancourt, 2005); however, these findings are not consistent across the literature (Rys & Bear, 1997; Craig, 1998; Zimmer-Gembeck, Geiger, Crick, 2005). Though teachers report greater use of indirect aggression among girls (Crick, Casas, & Mosher, 1997), self-report measures indicate a higher use of indirect aggression among boys (Card, Stucky, Sawalani, & Little, 2008). According to Card et al. (2008), stereotypical gender role attitudes may explain the contrasting reports of the forms of aggression among boys and girls. As Leichtman and Ceci (1995) point out, stereotypical beliefs can create a memory distortion and lead to difficulties in recalling events that are inconsistent with existing beliefs. For example, Giles and Heyman (2005) found that children with stereotypical beliefs were less likely to recall relationally aggressive acts among boys.

In addition to gender differences, researchers have found age-related patterns in the development of indirect and direct forms of aggression. Barker, Arseneault, Brendgen, Fontaine, and Maughan (2008) studied developmental trajectories of bullying and victimization during adolescence and identified a decrease in bullying behaviour among boys (19% at age 14 to 10% at age 16) and girls (10% at age 14 to 5% at age 16) from early to mid-adolescence. The authors also noted a decline in the rates of peer victimization among boys (13% at age 13 to 5% at age 16) and girls (10% at age 13 to 5% at age 16) from early to mid-adolescence. Ladd, Ettekal, and Kochenderfer-Ladd (2017) studied the prevalence and normative trends in school-based peer victimization throughout formal schooling (i.e., Grades K-12) and found that the prevalence rates for peer victimization declined progressively across the school years. Although a child's use of physical aggression peaks between the ages of two and four (Tremblay, 2010) and declines

thereafter (Brame, Nagin, & Tremblay, 2001; Côté, Vaillancourt, LeBlanc, Nagin, & Tremblay, 2006), the use of indirect means of aggression is also apparent in preschool age children (Crick, Ostrov, Burr, Cullerton-Sen, Jansen-Yeh, & Ralston, 2006; Krygsman & Vaillancourt, 2019) but may increase with age (Vaillancourt, Miller, Fagbemi, Côté, & Tremblay, 2007; Cleverly, Szatmari, Vaillancourt, Boyle, & Lipman, 2012). A movement from a direct (e.g., physical) to a more indirect form of aggression is associated with an increase in social-cognitive and linguistic skills (Vaillancourt et al., 2007) and a decrease in personal harm and confrontation (Björkqvist, 1994).

Despite these differences in prevalence rates by sex across independent students, a meta-analysis by Cook, Williams, Guerra, Kim, and Sadek (2010) representing 153 studies found that boys were more likely to be represented as targets and perpetrators of bullying than girls.

Previous studies have yielded mixed results regarding the prevalence rates of peer victimization among ethnic majority and minority school-aged children (Hanish & Guerra, 2000; Vitoroulis & Vaillancourt, 2015), with some researchers reporting that ethnic minority groups are more likely to be victimized compared to members of ethnic majority groups (Fandrem, Strohmeier, & Jonsdottir, 2012), while other researchers revealing that ethnic minority children are less likely than ethnic majority school-aged children to be repeatedly victimized by their peers (Hanish & Guerra, 2000; Fisher et al., 2015). In addition, Vitoroulis and Vaillancourt (2015) found in their meta-analysis that there were no differences in peer victimization among members of ethnic majority and minority groups. The inconsistency in findings regarding the relations between ethnicity and victimization (Vitoroulis & Vaillancourt, 2015) has led researchers to conclude that ethnicity is not directly related to peer victimization (Vervoor, Scholte, Overbeek, 2010) in that contextual factors, such as the ethnic composition of schools and classrooms, play a more prominent role in determining the risk for victimization among ethnic majority and minority students (Vervoor et al., 2010; Vitoroulis & Vaillancourt, 2015).

Researchers have proposed several theories from which to understand the socio-environmental factors associated with bullying. Adherents of social learning theory have argued that children learn through observation (Bandura, 1978; Espelage, Bosworth, & Simon, 2000) and exposure to physical and psychological forms of aggression during childhood predicts subsequent involvement in bullying (O'Connell, Pepler, & Craig, 1999). Vaillancourt et al. (2007) studied the link between family dysfunction and indirect aggression and found that

inconsistent parenting in childhood resulted in children's use of indirect aggression during middle-childhood. According to attachment theory, children's relationships with their caregivers may have a significant impact on their relations with peers (Bowlby, 1969; Shlafer & Poehlmann, 2010). Although children with insecure attachment are more likely to engage in bullying (Munson, McMahon, & Spieker, 2001) and respond to bullying incidents with hostility and aggression (Monks et al., 2009), securely attached children are less likely to become involved in bullying (Bowers, Smith, & Binney, 1994).

Since bullying is the most prevalent form of physical and psychological aggression in schools (Swearer & Doll, 2001; Beeson & Vaillancourt, 2016), researchers have turned to explore whether being victimized by one's peers leads to poor academic achievement in the classroom.

### **The Link between Peer Victimization and Academic Achievement**

Being a target of bullying has been concurrently linked to loneliness, anxiety, low self-worth (Graham & Juvonen, 1998) and longitudinally linked to depressive tendencies (Bogart et al., 2014), and low self-esteem (Van Geel, Goemans, Zwaanswijk, Gini, & Vedder, 2018; Saint-Georges & Vaillancourt, 2019). Children who are victimized by their peers may have a negative attitude toward school (Rueger, Malecki, & Demaray, 2010), negative perceptions of school climate (Baly, Cornell, & Lovegrove, 2014; Wang et al., 2014), and difficulties concentrating on school work (Li, Cross, & Smith, 2012).

Findings from the studies examining the link between peer victimization and academic achievement are mixed. Earlier studies have found that children with academic difficulties were at risk of peer victimization (Schwartz, Farver, Chang, & Lee-Shin, 2002; Mishna, 2003). However, more recently, researchers have found that children who were victimized by their peers were at greater risk of poor academic outcomes (Espelage, Hong, Rao, & Low, 2013; Vaillancourt, Brittain, McDougall, & Duku, 2013). Yet, there is a gap in the research on the bidirectional relationship between peer victimization and academic achievement. Although being the target of bullying leads to poor academic outcomes, it is also quite possible that poor academic achievement results in peer victimization.

Olweus (1978), a pioneer in the field of bullying research, first suggested that high and low academic achievers are at a greater risk for peer victimization. Park, Lee, Jang, and Jo (2017) examined the risk factors associated with victimization among middle and high school

students. The authors studied a sample of 65528 Korean adolescents that ranged from 12 to 18 years of age. They found that high and low academic achievers were indeed at an increased risk of peer victimization. Singer (2005) investigated the link between dyslexia and peer victimization in a sample of 60 Dutch children ranging from 9 to 10 years of age. The author found that children with dyslexia were more likely than other children their age to become targets of bullying.

Researchers have reported a positive association between academic performance and peer acceptance (Levine, Snyder, & Mendez-Caratini, 1982), with high-academic achievers being more accepted by their peers than low academic achievers (Austin & Draper, 1984). Hughes and Zhang (2007) examined the effects of classmates' perceptions of peers' academic competence on the association between academic ability and peer acceptance and found that low academic achievers were more likely to be rejected by their classmates. These same students were also less engaged in school. In a cross-sectional study, Glew, Fan, Katon, and Rivara (2008) studied the link between bullying and school safety using a sample of 5391 students in 7<sup>th</sup>, 9<sup>th</sup>, and 11<sup>th</sup> grade and found that for each one-point increase in grade point average (GPA), the likelihood of being a target of bullying decreased by 10 percent.

Children with learning difficulties are more likely to be rejected by their peers (Walker & Nabuzoka, 2007), with 30% of children with learning difficulties becoming targets of bullying compared to 8% to 16% of children without learning difficulties (Greenham, 1999). Because children with learning difficulties are at risk of poor academic performance (Mishna, 2003) and social difficulties (Nowicki, 2003), these children are at risk of peer victimization (Baumeister, Storch, & Geffken, 2008). It is possible that children with learning difficulties are less likely to be accepted by their peers (Wiener, 2004), reducing their opportunity to form relationships (Nabuzoka & Smith, 1993) that may protect them from being victimized (Savage, 2005).

Children with poor academic outcomes are at risk of peer victimization (Schwartz et al., 2002; Mishna, 2003), with poor writing skills in 3<sup>rd</sup> grade predicting peer victimization in 5<sup>th</sup> grade that persists until the 8<sup>th</sup> grade (Vaillancourt et al., 2013). Schwartz et al. (2002) examined the behavioural, academic, and psychosocial correlates of peer victimization in a sample of 122 South Korean elementary school children ranging from 10 to 12 years of age. The authors found a negative association between teacher-rated academic performance and multi-informant reports of peer victimization. Despite these findings, it is worth noting that the results may reflect the

cultural importance of education and academic achievements in maintaining status and self-fulfillment in Korea (Lee & Larson, 2000).

Children who are targets of bullying are at risk of poor academic outcomes (Nakamoto & Schwartz, 2010). Liu, Bullock, and Coplan (2014) conducted a longitudinal study with 805 elementary school children in which they looked at the link between peer assessments of victimization and teacher-rated academic achievement. The authors found that academic achievement in 3<sup>rd</sup> grade did not predict victimization in 5<sup>th</sup> grade, but being bullied in 3<sup>rd</sup> grade predicted poor academic outcomes in 5<sup>th</sup> grade. Additionally, in a three-year longitudinal study of a sample of 2300 middle school students, Juvonen, Wang, and Espinoza (2011) examined the effects of peer victimization on academic achievement. The authors found that for each 1-point (4-point scale) increase in self-perceived victimization, students' GPA decreased by 0.3-grade points. Wang et al. (2014) studied the links between school climate, peer victimization, and academic achievement and found that for every 1-point (5-point scale) increase in peer victimization, students' GPA decreased by 0.44 units. Similar findings were noted by Van der Werf (2014) who studied the effect of bullying on academic achievement and found that a 1 standard deviation (SD) increase in school bullying incidents resulted in a 0.55 SD and 0.44 SD decrease in students' standardized test scores. Finally, a meta-analysis of the concurrent association between peer victimization and academic achievement revealed a small but significant negative correlation between the two constructs (Nakamoto & Schwartz, 2010).

There are many reasons as to why targets of bullying lag behind their peers in academic development. Peer victimization may result in internalizing problems (McDougall & Vaillancourt, 2015) which, in turn, results in poor academic outcomes (Vaillancourt et al., 2013). In a longitudinal study, Juvonen, Nishina, and Graham (2000) studied the link between peer harassment, psychological adjustment, and school functioning in a sample of 243 students that ranged from 12 to 15 years of age. The authors found that peer harassment resulted in psychological maladjustment (low self-worth, loneliness, and depressive symptoms) which led to poor school functioning (as assessed by GPA and absenteeism). Children with depressive symptoms may exhibit poor concentration and memory, and consequently, suffer from academic underachievement (Lundy, Silva, Kaemingk, Goodwin, & Quan, 2010).

Peer victimized children may have a negative view of themselves (Graham & Juvonen, 1998; Saint-Goerge & Vaillancourt, 2019) that extends to other areas such as scholastic

achievement (Verkuyten & Thijs, 2002). Thijs and Verkuyten (2008) studied the relationship between peer victimization and academic achievement in a sample of 1895 students in 6<sup>th</sup> grade and found that academic self-efficacy mediated the relation between peer victimization and academic achievement. Kokkinos and Kipritsi (2012) examined the associations between bullying perpetration, peer victimization, and academic self-efficacy in a sample of 206 sixth grade students that ranged from 10 to 13 years of age. The authors found a negative association between peer victimization and academic self-efficacy. In a longitudinal study, Flook, Repetti, and Ullman (2005) reported that academic self-concept in 5<sup>th</sup> grade predicted academic achievement in 6<sup>th</sup> grade, while in a meta-analytic review, Multon, Brown, and Lent (1991) found that “self-efficacy beliefs account for approximately 14% of the variance in students’ academic performance and approximately 12% of the variance in their academic persistence” (p. 34).

Peer victimized children may have a negative perception of their school climate (Meyer-Adams & Conner, 2008; Wang et al., 2014) which may, in turn, diminish their willingness to attend school (Hutzell & Payne, 2012), resulting in poor academic outcomes (Roby, 2004; Seilström & Bremberg, 2006). Strøm, Thoresen, Wentzel-Larsen, and Dyb (2013) examined the link between violence, school environment, and academic achievement and found that children who attend schools with a high frequency of bullying incidents were at increased risk of poor academic performance. In a cross-sectional study of 612 students that ranged from 13 to 17 years of age, Patton, Woolley, and Hong (2011) found that exposure to school violence was indirectly associated with self-reported measures of academic performance, while in a cross-sectional study of 7343 participants, Strøm et al. (2013) found that a 1-point increase (4-point scale) in school bullying accounted for an average of 0.98- point decrease in grades.

A couple of studies found no relationship between peer victimization and subsequent school functioning (Hanish & Guerra, 2002; Woods & Wolke, 2004). In a two-year longitudinal study, Hanish and Guerra (2002) examined the effects of peer victimization on children’s behavioural, social, emotional, and academic functioning in a sample of 2064 students in 1<sup>st</sup>, 2<sup>nd</sup>, and 4<sup>th</sup> grade. They did not find a correlation between peer victimization and academic maladjustment as assessed by reading and math scores. Results revealed gender and age-related patterns in students’ responses to bullying, with boys and older children at greater risk of developing adjustment problems to peer victimization. A longitudinal study by Woods and

Wolke (2004) examined the association between bullying behaviour and academic achievement in a sample of 1016 primary school children ranging from 6 to 7 years of age. Targets of direct bullying did not differ from their peers in academic achievement as assessed by The National Curriculum Standard Assessment Tasks that combine Test Results (SATs TR) with Teacher Assessments (SATs TA). Woods and Wolke (2004) noted that peer victimized children turn to schoolwork and related activities as an escape route from bullying, increasing their academic outcomes.

Despite the findings, few studies have examined potential protective factors that mitigate the link between peer victimization and poor academic outcomes. Rothson, Head, Klineberg, and Stansfeld (2011) examined the link between bullying victimization and school achievement. The authors found that high levels of support from family and friends protected bullied adolescents from poor academic outcomes among a sample of 2790 adolescents from 11 to 12 and 13 to 14 years of age. A positive teacher-child relationship also appears to have a positive effect on children and adolescents by impacting their sense of school connectedness (Hallinan, 2008), leading to lower levels of externalizing and internalizing problems (O'Connor, Dearing, & Collins, 2011), and positively impacting learning outcomes (Hamre & Pianta, 2001).

Wood and Wolke (2004) found that high academic outcomes in 1<sup>st</sup> grade predicted relational aggression (e.g., social exclusion) in 3<sup>rd</sup> grade. Other researchers have found that relational aggression in 4<sup>th</sup> grade predicted poor academic performance in 4<sup>th</sup> and 5<sup>th</sup> grade (Risser, 2013). Still, Van der Werf (2014) noted a negative association between school bullying incidents and academic performance among both targets and perpetrators of bullying.

Despite the large and growing field of research, the link between peer victimization and academic achievement has not yet been firmly established. Although student achievement has been assessed through self-report measures (Holt, Finkelhor, & Kaufman Kantor, 2007), teacher-rating of academic achievement (Schwartz et al., 2002), GPAs (Glew et al., 2008), and standardized test scores (Van der Werf, 2014); empirical evidence suggests that educational measures, such as academic achievement measures, can impact the magnitude of the relation between the two variables with studies using school records of achievements ( $ESr = -.17$ ) revealing a stronger effect size than studies using self-reported GPAs ( $ESr = -.06$ ) and standardized test scores ( $ESr = -.10$ ; Nakamoto & Schwartz, 2010).

It is important to note that although previous studies have examined the association between peer victimization and academic achievement for children and adolescents, most inquiries into the link between these variables have been cross-sectional. Although cross-sectional studies (Austin & Draper, 1984; Schwartz et al., 2002; Park et al., 2017) have indicated an association between peer victimization and academic performance; longitudinal studies regarding these variables have produced inconsistent findings, with researchers reporting that peer victimization could function as a precursor (Liu et al., 2014) or consequence (Hughes & Zhang, 2007; Vaillancourt et al., 2013) of lower academic achievement. The finding should be treated with caution in that there could be gender differences in the relations between peer victimization and academic achievement at certain ages or stages of development.

### **The Effect of Peer Victimization on School Attendance**

Students who are bullied by their peers are at risk of chronic absenteeism (Rigby, 2003), truancy (Sharp, 1995; Attwood & Croll, 2006), and dropping out of school (Townsend, Fisher, Chikobvu, Lombard, & King, 2008; Dunne, Bosumtwi-Sam, Sabates, & Owusu, 2010). Chronic absenteeism is defined as missing more than 10% (Chang & Romero, 2008) or 18 days of school over the course of an academic year (Balfanz & Byrnes, 2012). Kearney (2008) made an important distinction between unexcused and excused absences. Students are excused from classes when their absences are due to medical injury, religious holiday, illness, or death within the family. Unexcused absences refer to the number of days that students are absent from school without an acceptable explanation. Unexcused absences are associated with environmental and social conditions and may include both school withdrawal and school refusal behavior (i.e., a person's motivation to skip school in response to fear or anxiety; Kearney, 2008).

Several researchers have found a positive relationship between peer victimization and school absenteeism (Reid, 1983; Juvonen et al., 2000; Hutzell & Payne, 2012). However, this is not consistent as findings in other studies revealed no association between peer victimization and school records of absenteeism (Glew, Fan, Katon, Rivara, & Kernic, 2005). Juvonen et al. (2000) conducted a study with 243 participants between 12 and 15 years of age and found a positive correlation between self-perceived peer harassment and school records of absenteeism that was stronger for boys. Conversely, in a cross-sectional study of 1639 primary school children ranging from 6 to 9 years of age, Wolke, Woods, Bloomfield, and Karstadt (2001) found no relationship between direct and relational involvement in bullying and parent and school records of

absenteeism. Currently, questions remain as to whether there are age-related differences pertaining to individual responses to perceived peer victimization.

Students who experience bullying are at greater risk of skipping school (Dunne et al., 2013) and thus missing out on valuable learning opportunities (Storch & Masia-Warner, 2004). Kochenderfer and Ladd (1996) examined the longitudinal link between peer victimization and school adjustment in a sample of 200 children in kindergarten. Results revealed that bullied children were at risk of a variety of school adjustment problems including loneliness and school avoidance. Reid (1983), in a study of 128 persistent school absentee students, found that 14.8% reported bullying as the main reason for missing school. In a longitudinal study, Buhs, Ladd, and Herald (2006) examined the link between chronic peer abuse and subsequent school engagement and academic achievement. The authors studied a sample of 380 children from kindergarten to 5<sup>th</sup> grade and found that chronically abused children were more likely to engage in school avoidance behaviour. Jan and Husain (2015) surveyed 234 girls and boys that ranged from 12 to 15 years of age and found that bullied students were more likely to miss school for fear of being criticized by their peers. Storch and Masia-Warner (2004) noted that “victimized girls may be denied opportunities for learning and developing prosocial peer relationships because of avoidance and distress” (p.359).

Avoidance has been found to be the second most frequently used method of coping with being the target of bullying (Mahady-Wilton, Craig, & Pepler, 2000). Storch and Masia-Warner (2004) examined the link between peer victimization and social anxiety in a total of 561 girls in 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade and found that girls who were overtly or relationally victimized by their peers were at a greater risk of avoiding general and new situations. Using data from the 2008 Ghana Global School-based Student Health Survey, Dunne et al. (2010) found that girls or boys who experienced psychological bullying had 2.1 and 2.5 times higher odds of missing school. Storch, Brassard, and Masia-Warner (2003) studied a sample of 383 adolescents in 9<sup>th</sup> and 10<sup>th</sup> grade found that relationally victimized boys were at greater risk of social avoidance; there was also a positive relationship between overt and relational victimization and social avoidance among girls. Consistent with the previous research, Steiner and Rasberry (2015) found that 15.5% of bullied students missed one or more day(s) of school during the 30 days before the survey because of safety concerns, compared to 4.1% of non-bullied students.

Peer victimized children may develop somatic and psychological problems (Srabstein, McCarter, Shao, & Huang, 2006) that result in problematic levels of school absenteeism (Egger, Costello, & Angold, 2003; Kearney, 2008). Somatic complaints include fatigue and dizziness (Politis, Bellou, Belbasis, & Skapinakis, 2014), while psychological problems may include depression and anxiety (Bond, Carlin, Thomas, Rubin, & Patton, 2001). Nishina, Juvonen, and Witkow (2005) studied the relation between peer victimization, psychosocial adjustment, physical symptoms, and school adjustment in a sample of 1526 sixth grade students. They found that “peer victimization in the fall was associated with spring psychosocial maladjustment and physical symptoms, which in turn predicted poor spring school functioning” (p. 37). Juvonen et al. (2000) found that peer harassment led to psychological maladjustment (depressive symptoms, loneliness, and low self-worth), which in turn, led to poor school functioning (as measured by GPA and school attendance).

Children who are victimized by their peers may view their school as an unsafe place (Card & Hodges, 2008) and avoid certain locations in school due to fear of attack or harm (Hutzell & Payne, 2012). Vaillancourt et al. (2010b) conducted a cross-sectional study of 11152 students from 4<sup>th</sup> through 12<sup>th</sup> grade and found that elementary school students were most vulnerable to bullying on playgrounds (71.6%) and outside recess (62.7%). Secondary school victims reported higher rates of bullying in hallways (67.9%), lunchroom/cafeteria (48.5%), classrooms (47.0%), in front of the school (42.5%), change rooms (41.0%), and gymnasiums (32.8%). Consequently, bullied students were more likely to avoid hallways (7%), restrooms (7%), the school cafeteria (6%), parking lots (5%), and entrances to the school (4%). Similarly, Meyer-Adams and Conner (2008) studied the link between bullying and school climate using data from the School Culture, Climate, and Violence: Safety in Middle Schools of the Philadelphia Public School System study. Peer victimization had a negative impact on the psychosocial environment of the school, which resulted in school avoidance or withdrawal behaviour (e.g., staying home, cutting classes, and avoiding locker rooms and parking lots).

Despite these findings, several researchers have found no relationship between peer victimization and school absenteeism (Attwood & Croll, 2006; Glew et al., 2005). In a cross-sectional study of a sample of 3530 students between 6<sup>th</sup> and 10<sup>th</sup> grade, Glew et al. (2005) found no association between bullying involvement and school records of absenteeism. In a sample of 1982 children that ranged 6 to 9 years of age, Wolke et al. (2001) found that bullying

involvement did not predict parent or school records of absenteeism. These authors also noted that primary school-aged children were less likely than secondary school children to report health problems and school absenteeism in response to victimization. Using detailed personal interviews and British Household Panel Survey (BHPS), Attwood and Croll (2006) examined the consequences and explanations for truancy in a sample of 770 participants aged 11 to 15 years and found that worrying about bullying was not associated with higher level of unexcused absences. The authors noted that although rates of truancy increase across the years of secondary school, concerns over bullying decrease as students get older. According to the authors, the sharp increase in truancy was due to negative attitudes toward teachers.

Associations between peer victimization and school absenteeism are quite complex. Although cross-sectional (Storch & Masia-Warner, 2004; Dunne., et al 2010; Hutzell & Payne, 2012) and longitudinal studies (Juvonen et al., 2000) have indicated an association between peer victimization and school absenteeism; the findings should be treated with caution in that two studies revealed no association between these variables (Wolke et al., 2001; Glew et al., 2005). It is also important to note that although being the target of bullying leads to school absenteeism, it is also quite possible that being absent from school results in peer victimization in that children select and are selected by others based on their engagement in school (Skinner & Pitzer, 2012), with more engaged children developing closer relationships with the peers (Ladd et al., 1999) that may protect them from being victimized (Savage, 2005).

### **The Link between Academic Achievement and School Attendance**

Research on the link between academic achievement and school attendance has revealed mixed findings. Some researchers suggest that school absenteeism leads to poor academic outcomes (Peterson & Colangelo, 1996). Other researchers, however, have found that changes in academic outcomes result in changes in school attendance (Feldman et al., 2014).

Chronically absent students tend to have lower academic outcomes compared to their better attending peers (Kearney & Bensaheb, 2006). Romero and Lee (2007) studied the impact of early school absences on subsequent academic outcomes in a sample of children from kindergarten through 5<sup>th</sup> grade. They found a positive association between chronic absenteeism in kindergarten and poor academic performance in 1<sup>st</sup> grade as measured by reading, general knowledge, and math scores. Connolly and Olson (2012) studied the link between school attendance and academic performance and found that being chronically absent in pre-

kindergarten and kindergarten predicted lower grades in 1<sup>st</sup> and 2<sup>nd</sup> grade SAT10 scores. Romero and Lee (2007) noted that “children missing 10% or more of the school year scored five points less than did those who were absent up to 3% of the school year in kindergarten” (p. 3). Using data from the Ohio Department of Education website, Roby (2004) examined the influence of class attendance on students’ academic outcomes. The author studied 4640 students in 4<sup>th</sup>, 6<sup>th</sup>, 9<sup>th</sup>, and 12<sup>th</sup> grade. Roby found a positive correlation between school attendance and academic outcomes (as measured by Ohio Proficiency Tests). Schools that ranked the highest on the Ohio Proficiency Test had the highest attendance averages. Consistent with Roby’s findings, Lamdin (1996) found that school attendance positively influenced students’ performance as assessed by the California Achievement Test (CAT).

Poor school attendance can result in a number of adverse academic outcomes. Gottfried (2009) studied the relationship between school absences and academic achievement using a longitudinal dataset of a sample of 86000 elementary and middle school students within the School District of Philadelphia. Results revealed that school attendance was related to both GPA and standardized test performance measured by SAT9 reading and math scores. Gottfried (2009) found a stronger correlation between school attendance and academic achievement (GPA) as students progressed through school. Ready (2010) examined the relationship between socioeconomic status (SES), school absences, and academic achievement using data from the Early Childhood Longitudinal Study (ECLS-K). The author found a negative association between school absences and literacy scores, with 1 SD increase in kindergarten absence associated with a 1.5% or 1.26% monthly decrease in literacy and mathematics scores over the course of 1<sup>st</sup> grade. Controlling for SES, Coelho, Fischer, McKnight, Matteson, and Schwartz (2015) found that for each day increase in first-grade absence, students’ third-grade test scores decreased by 1 point in math and 0.75 points in reading. The authors found that ethnic minority students had the highest rates of absences and experienced the greatest decline in math and reading scores for each day missed.

Academic underachievement can also have a negative influence on school attendance. Feldman et al. (2014) examined the link between bullying, victimization, and academic achievement in a sample of 2030 students in 6<sup>th</sup>, 7<sup>th</sup>, and 8<sup>th</sup> grade. The authors found that poor academic achievement (as measured by GPA) in middle school predicted a decrease in annual attendance rate toward high school. Consistent with Feldman et al.’s (2014) findings, Friedman,

Rodriguez, and McComb (2001) found that students with high academic achievement (as assessed by GPA) had fewer school absences.

Despite evidence of an association between academic achievement and school absenteeism (Kearney & Bensaheb, 2006; Romero & Lee, 2007; Connolly & Olson, 2012), little is known about the relations between these variables over time. Although several studies have indicated that being absent from school results in poor academic performance (Kearney & Bensaheb, 2006), it is also plausible that poor academic performance can have a negative influence on school attendance (Feldman et al., 2014) in that students' motivation may decrease as a result of lower grades (Whitley, Lupart, & Beran, 2007).

### **Peer Victimization, Academic achievement, and School Attendance**

Several researchers have found that peer victimization leads to school absenteeism (Reid, 1983; Juvonen et al., 2000; Hutzell & Payne, 2012; Dunne et al., 2013), which in turn, predicts poor academic outcomes (Buhs & Ladd, 2001). Other researchers suggest that peer victimization interferes with children's and adolescents' academic outcomes (Nakamoto & Schwartz, 2010; Juvonen et al., 2011; Van der Werf, 2014), which then predicts higher levels of school absenteeism (Friedman et al., 2001; Feldman et al., 2014). Yet, few longitudinal studies have directly examined the chronological sequence between peer victimization, academic achievement, and school attendance for purposes of drawing causal inferences.

In Ripski and Gregory's (2009) study, the links between peer victimization, school engagement, and academic achievement were examined using the Educational Longitudinal Study of 2002. The authors found that self-perceived peer victimization predicted school disengagement and poor academic achievement (as indicated by reading and math scores). Gardella, Tanner-Smith, and Fisher (2016) examined the relation between peer victimization and academic outcomes in a sample of 5930 participants ranging from 12 to 18 years of age. Self-reported school absenteeism partially mediated the association between peer victimization and academic functioning. In Buhs and Ladd's (2001) study, the links between peer rejection and children's emotional and academic adjustment were examined using a short-term longitudinal design. The authors found that children who were rejected by their peers were less likely to participate in classroom activities, which resulted in poor academic outcomes.

Feldman et al. (2014) examined the links between bullying perpetration, peer victimization, and academic achievement in a sample of 2483 children over a five-year period.

The authors found that peer victimization in middle school was not concurrently or longitudinally related to academic achievement and school records of attendance (as assessed by GPA and attendance records). In Buhs et al. (2006) study, links between peer rejection, school engagement, and academic achievement were examined in a sample of 380 children from kindergarten through fifth grade. Results revealed that although chronically abused children were more likely to engage in school avoidance behaviour, school avoidance was not linked to academic achievement as assessed by the Teacher Rating Scale of School Adjustment and Wide Range Achievement Test. However, given the young age of the sample, it remains unclear whether these patterns of findings exist among middle and secondary school-aged children.

The scarcity of longitudinal studies examining the relations between peer victimization, academic achievement, and school absenteeism is a concern in that there is ample cross-sectional evidence indicating that these variables are interrelated (Schwartz et al., 2002; Romero & Lee, 2007; Dunne., et al 2010; Gardella et al., 2016). It remains to be seen whether peer victimization brings about poor academic outcomes, thereby leading to school absenteeism (peer victimization → poor academic achievement → school absenteeism), whether peer victimization leads to school absenteeism, which then predicts poor academic outcomes (peer victimization → school absenteeism → poor academic achievement), or whether poor academic outcomes increase the risk of being targeted by peers which in turn is associated with school absenteeism (poor academic achievement → peer victimization → school absenteeism). It is also possible that being absent from school places children at risk socially with their peers, which then impact their grades (school absenteeism → peer victimization → poor academic achievement). Finally, there could also be reciprocal relations between these variables.

### **Research Objectives**

The research focused on addressing the gaps in the literature regarding the longitudinal association between peer victimization, academic achievement, and school absences over time; with a specific focus on understanding the temporal sequence linking the variables together. The objectives of the present research included examining (1) the direct relationship between peer victimization and academic achievement; (2) the direct relationship between peer victimization and school attendance; (3) the temporal sequence between peer victimization, academic achievement, and school attendance; and (4) gender differences in the temporal sequence between peer victimization, academic achievement, and school attendance.

## Present Study

The majority of research on bullying has focused on children's and adolescents' mental, physical, and emotional health. Fewer studies have been conducted on the effects of peer victimization on academic achievement and school attendance among young adults.

A small number of studies suggest that academic underachievement leads to peer victimization (Schwartz et al., 2002; Vaillancourt et al., 2013; poor academic achievement → peer victimization). However, most studies on bullying have shown that peer victimization results in poor academic performance (Nakamoto & Schwartz, 2010; Juvonen et al., 2011; Liu et al., 2014; Wang et al., 2014; peer victimization → poor academic achievement). Given the findings, we predict that peer victimization will have a negative effect on students' academic outcomes (peer victimization → poor academic achievement).

In this study, we also examined whether being a target of bullying was associated with higher levels of school absenteeism. Several researchers have found that targets of bullying were more likely to exhibit higher levels of school absenteeism (Vidourek, King, and Merianos, 2016; peer victimization → increased school absenteeism). Other researchers found that peer victimized youth were more likely to exhibit school avoidance behaviour (Hutzell & Payne, 2012; increased school absenteeism → peer victimization). Glew et al. (2005) found no association between peer victimization and school records of attendance (peer victimization ≠ increased school absenteeism). We predicted that children and adolescents who were victimized by their peers would be more likely to miss school (peer victimization → increased school absenteeism).

Although evidence suggests that peer victimization leads to school absenteeism, which in turn, leads to poor academic outcomes (Buhs & Ladd, 2001; Gardella et al., 2016; peer victimization → increased school absenteeism → poor academic achievement). Being bullied by peers may result in poor academic performance, increasing the risk of school absenteeism (peer victimization → poor academic achievement → increased school absenteeism). The main purpose of the study was to examine the longitudinal relations between peer victimization, academic achievement, and school attendance; with a specific focus on the temporal sequence linking the variables together. Therefore, no formal hypotheses were made.

Some researchers suggest that the link between peer victimization, academic achievement, and school attendance is stronger among girls than boys (Feldman et al., 2014;

Rueger & Jenkins, 2014). Other researchers, however, found that chronically victimized boys were more likely to dislike school and have lower levels of classroom engagement (Ladd et al., 2017). With regards to gender differences, we expected that girls who were bullied would experience greater school difficulties over time in that girls have been shown to be more distressed by bullying than boys (Paquette & Underwood, 1999).

Since it is the severity rather than the forms of victimization that places children and adolescents at higher risk for adverse outcomes (e.g., Haltigan & Vaillancourt, 2014), we classified students according to severity/frequency rather than type or form of victimization (e.g., relational vs. physical).

### **Methodological Framework**

Plato drew a distinction between knowledge and true opinion (Grote, 1865) on the ground that knowledge is nothing more than a belief that can be supported by reasoning (Anderson, 1993). Although the main purpose of positivism is to attain an absolute truth through direct observation and scientific reasoning (Lee, 1991; Koch & Harrington, 1998), post-positivists recognize that all knowledge is socially constructed and shaped by cultural beliefs and experiences (Henderon, 2011). Researchers, guided by a positivist framework, attempt to maintain objectivity by eliminating subjectivities and personal prejudice in the research process; however, post-positivists argue that reality is socially constructed (e.g., experiential, cultural, and background knowledge) and can therefore never be a value-free research.

For this thesis, a post-positivist epistemological framework that recognizes the roles of values and politics in the research process was adopted (Ryan, 2006). In keeping with a post-positivist approach to research, we recognize the influences of culture, language, and subjective forms of cognition in the construction of knowledge. Researchers and their methods have inherent biases and weaknesses that may occur either intentionally or unintentionally when reviewing the literature, formulating a hypothesis, determining the research design, collecting the data, and analyzing and interpreting the results.

Post-positivists emphasize the use of qualitative (e.g., non-numerical) and quantitative methods in understanding human behaviour. Qualitative research is used to gain a deeper insight into the different aspects of human experience via observation, in-depth interviews, and focus groups (Jamshed, 2014). Quantitative forms of research are used to test theories through descriptive, experimental, and quasi-experimental designs (Sousa, Driessnack, & Mendes, 2007).

While qualitative methods are characterized by discovery and exploration, quantitative research relies on standardized data collection and statistical analysis (Johnson & Onwuegbuzie, 2004).

Research on bullying and victimization has been conducted using quantitative (Woods & Wolke, 2004; Nakamoto & Schwartz, 2009; Wang et al., 2014), qualitative (Mishna, 2004; Patton, Hong, Patel, & Kral, 2016), and mixed method approaches (Cunningham, Vaillancourt, Rimas, Cunningham, Short, & Chen, 2009; Hong & Espelage, 2012). Although qualitative research provides a deeper understanding of children's and adolescents' personal experiences of victimization (Thornberg, 2011) through interviews, focus groups, and participant-observation (Cunningham et al., 2009; Hong & Espelage, 2012), quantitative methods, via surveys and experiments, enable researchers to test theories and generalize findings to a larger population. Mixed methods research combines both quantitative (e.g., surveys) and qualitative (e.g., interviews, focus groups) methods to gain a deeper understanding of an issue.

A quantitative research design was chosen to gain a better understanding of the relations between peer victimization, academic achievement, and school attendance. Quantitative methods have become important tools in exploring the phenomenon of bullying (Hong & Espelage, 2012) in that they have furthered our understanding of the severity and prevalence of bullying in classrooms and schools (Vaillancourt et al., 2010a). Quantitative social researchers use numerical data to examine the influence of peer victimization on mental health and academic achievement. The central purpose of quantitative research is to establish a relationship between variables and predict future behaviour.

## **Methodology**

### **Participants and Procedure**

The data were derived from the McMaster Teen study, an ongoing longitudinal study examining the relationship between peer victimization, mental health, and academic achievement. The study has maintained yearly ethical approval from the McMaster University Research Ethics Board (5<sup>th</sup> to 8<sup>th</sup> grade) and the University of Ottawa Research Ethics Board (9<sup>th</sup> to 12<sup>th</sup> grade). Parents and children were initially recruited to take part in the study in the spring of 2008. Participants were selected from fifth-grade classrooms at 51 randomly selected elementary schools within Southern Ontario Public School Board. Parents were asked to provide consent for their children to participate in the research study. Children were also asked to provide a written assent to participate in the study. In fifth-grade, participants completed a paper-pencil

version of the survey in their classrooms. Children had an option of answering either paper or an online version of the survey at subsequent time points. Additionally, a trained research assistant interviewed the parents on their children's peer experiences and mental health functioning. Parents and students were compensated for their time and cooperation with a gift certificate.

This research examined participants from T1 (5<sup>th</sup> grade) through T8 (12<sup>th</sup> grade). The total number of participants who agreed to participate in the longitudinal arm of the study was 875. Of the 875 participants, 654 (75%) participated in the study in at least one additional time point (T2-T8) and as such were included in the analysis. The average age of students in 5<sup>th</sup> grade was 10.50 years (SD=0.51), and approximately half were girls (54.1%). The majority of participants were European-Canadian (White, 79.2%; Middle-Eastern-Canadian, 1.8%; African/West-Indian-Canadian, 3.5%; Asian- Canadian, 1.8%; South-Asian-Canadian, 3.7%; Indigenous-Canadian, 2.3%; South/Latin American-Canadian, 1.4%; Did not know, 0.2%; Other, 4.4%; missing, 1.7%). A combination of student and parent reports of race/ethnicity were recoded into two categories of non-white (Middle-Eastern-Canadian, African/West-Indian-Canadian, Asian- Canadian, South-Asian-Canadian, Indigenous-Canadian, South/Latin American-Canadian, and Other) and white (European-Canadian) due to the low prevalence of most ethnic backgrounds. Twenty-eight percent of participants identified as non-white, and seventy-nine percent of participants identified as white. Socioeconomic status, measured by household income and educational attainment, of parents whose children are involved in the study was taken at T1 (5<sup>th</sup> grade), with approximately half of parents reporting a household income greater than \$80, 000 (46.8%; \$70 000-\$80 000, 9.3%; \$60 000-\$70 000, 7.5%; \$50 000-\$60 000, 6.3%; \$40 000-\$50 000, 6.1%; \$30 000-\$40 000, 6.9%; \$20 000-\$30 000, 5.8%; <20 000, 4.6%). Over half (72.6%) of parents had either college or university qualification (college diploma or trades certificate, 39.0%; university undergraduate degree, 23.5%; university graduate degree (10.1%; high school, 19.9%, and did not complete high school, 4.0%).

## Measures

**Peer victimization.** Participants were asked about their own experiences with victimization ("How often have you been bullied at school?") using a five-point scale (0 = Not at all, 1=Only a few times this year, 2 =Every month, 3 =Every week, and 4=Many times a week). Students' responses on their victimization experiences as well as the physical ("How often have you been physically bullied by being hit, kicked, shoved, etc.?"), verbal ("How often have you

been verbally bullied by insults, put downs or threats at school?”), social (“How often have you been bullied by exclusion (being left out), rumours, or someone getting others not to like you?”), and cyber (“How often have other students bullied you on the computer by using text messages, the computer or email messages/pictures to threaten you or make you look bad?”) forms of victimization were summed within each time point to create a composite score. The current measure was compared to other bullying scales such as the Olweus Bully/Victim Questionnaire (Olweus, 1996) and has shown to be more sensitive in identifying true cases of victimization (Vaillancourt et al., 2010a). The internal consistency of the scores derived from the peer victimization measure had been established at each time point (T1  $\alpha = .81$ , T2  $\alpha = .80$ , T3  $\alpha = .78$ , T4  $\alpha = .78$ , T5  $\alpha = .80$ , T6  $\alpha = .79$ , T7  $\alpha = .80$ , T8  $\alpha = .81$ ), with scores ranging from 0 to 19 ( $M=2.65$ ,  $SD= 3.15$ ). Higher scores on this measure indicate greater rates of victimization.

**School absences.** The number of days participants have missed from school were assessed from the spring of 5<sup>th</sup> grade (T1) to the time the age group reached 12<sup>th</sup> grade (T8) using school records of attendance (Ontario School Record) through the participating school boards. Teachers in Ontario are legally and contractually required to ensure that the attendance of persons for every school day is recorded in accordance with the regulations outlined in the Education Act (Subsection 265) and policies established by the Ministry of Education. Children or adolescents were classified as absent if they missed a portion of a class, half of a school day, or an entire day of classes. The measure had excellent reliability (T1  $\alpha = .83$ , T2  $\alpha = .82$ , T3  $\alpha = .81$ , T4  $\alpha = .80$ , T5  $\alpha = .78$ , T6  $\alpha = .77$ , T7  $\alpha = .77$ , T8  $\alpha = .82$ ), with scores ranging from 0 to 140.50 ( $M=13.24$ ,  $SD= 15.16$ ). A higher score indicates greater rates of school absences.

**Academic achievement.** Participants academic achievement was assessed using their Grade Point Average (GPA) obtained from the Ontario Student Records through the participating school boards. Students’ performance, measured by dividing the total number of grade points earned by the total number of attempted units, in English, French, math, science (T1-T4) social studies (T1-T3), and geography and history (T3-T4) were averaged within each time point to create a GPA composite. Students high school grades, including 18 compulsory credits (English, 4; mathematics, 3; science, 2; Canadian history, 1; Canadian geography, 1, arts, 1; health and physical education, 1; French as the second language, 1; career studies, 0.5; civics, 0.5) and 12 optional credits, were summed to create a composite score at every time point. Grades were scored on a 12-point scale (D-=50–52%; D=53–56%; D+= 57–59%; C-=60–62%; C=63–66%;

C+= 67–69%; B-=70–72%; B=73–75%; B+=76–79%; A-=80–84%; A=85–89%; A+=90–100%), with lower scores indicating poor academic achievement. The GPA composite had excellent reliability (T1  $\alpha$  =.94, T2  $\alpha$  =.94, T3  $\alpha$  =.93, T4  $\alpha$  =.93, T5  $\alpha$  =.93, T6  $\alpha$  =.93, T7  $\alpha$  =.93, T8  $\alpha$  =.94) with scores ranging from 0 to 12 ( $M=8.41$ ,  $SD=2.27$ ).

**Control variables.** The control variables, household income and parental education, have shown to be linked to peer victimization (Tippett & Wolke, 2014) and academic achievement (Dahl & Lochner, 2010; Davis-Kean, 2005). Parental household income was assessed using an 8-point scale (1= less than 20,000, 2= between 20,000 and 30,000, 3= between 30,000 and 40,000; 4= between 40,000 and 50,000; 5= between 50,000 and 60,000; 6= between 60,000 and 70,000; 7= between 70,000 and 80,000; 8= more than 80,000) and level of education was assessed using a 5-point scale (1= did not complete high school; 2= completed high school; 3= college diploma or trades certificate; 4= university undergraduate degree; 5= university graduate degree). Racial and ethnic differences have been linked to academic outcomes (Vars & Bowen, 1998; Mau & Lynn, 1999) and school absences (Whitney & Liu, 2017), and were controlled in the analysis.

### Statistical Analysis

Path analysis with maximum likelihood robust (MLR) estimation was carried out using Mplus version 8 (Muthén & Muthén, 1998-2010) to examine the direct and indirect associations between peer victimization, academic achievement, and school attendance. The TYPE= COMPLEX and the CLUSTER options were used to account for the nesting of students at the classroom level. The model fit was evaluated using Comparative Fit Index (CFI) with values  $>.95$  indicating an excellent fit, the root mean square error of approximation (RMSEA; values  $<0.06$  indicating an excellent fit), and the Standardized Root Mean Square Residual (SRMR) with values  $<0.08$  indicating an acceptable fit (Hu & Bentler, 1999). Satorra-Bentler scaled chi-square test was used to evaluate the significance of differences in Chi-square values between the nested models (Satorra & Bentler, 1994). Non-nested models were compared using the Akaike information criterion (AIC).

In the first model, we examined within-time covariance to determine whether the constructs have a positive or inverse relationship at each time point (e.g., being bullied by peers Grade 5 with school absenteeism Grade 5). In the second and third model, autoregressive paths were used to examine the stability of the main variables over a one-year (e.g., Grade 5 school

absences to Grade 6 school absences) and two-year (Grade 5 school absences to Grade 7 school absences) interval.

Investigating the variables over different time lags was helpful in examining the points in time in which the independent variable (e.g., bullying by peers) exerted its full effect on the dependent variables (e.g., academic functioning). In the fourth model, autoregressive cross-lagged paths were added to explore the relations between variables over time (e.g., being bullied by peers Grade 5 to academic achievement Grade 6). A multi-group analysis was used to assess whether the predictive pathways differed across gender (Model 5 and 6). In the seventh model, we controlled for ethnicity, household income, and parental education levels. Indirect pathways, involving three or more time points, were identified and tested for significance using the “Model Indirect” command in Mplus.

## Results

### Descriptive statistics

Table 1 presents the means and standard deviations for peer victimization, school absences, and GPAs, as well as the overall sample size, over the course of the study. Girls, compared to boys, reported higher levels of peer victimization, had higher GPAs, and had higher rates of absences at every time point. Over the duration of the study, girls and boys reported higher rates of victimization in elementary school, with the highest victimization rate in 5<sup>th</sup> grade. The lowest rate of victimization was reported in 11<sup>th</sup> (for boys) and 12<sup>th</sup> (for girls) grade. Although the frequency of peer victimization declined for boys (except for 8<sup>th</sup> and 12<sup>th</sup> grade) and girls across the school years, the rates of school absences increased (except for 10<sup>th</sup> grade) as they grew older. Secondary schools had higher rates of absences than elementary schools, with a sharp increase between 10<sup>th</sup> and 11<sup>th</sup> grade.

The bivariate correlations among the main study variables across time are presented in Table 2. Correlations ranged from .19 to .58 for self-perceived peer victimization with the strongest association between 10<sup>th</sup> and 11<sup>th</sup> grade ( $r=.58$ ) and the weakest association between 6<sup>th</sup> and 12<sup>th</sup> grade ( $r=.19$ ). Teacher ratings of academic achievement, with the strongest correlation between 9<sup>th</sup> and 10<sup>th</sup> grade ( $r=.87$ ) and the weakest correlation between 6<sup>th</sup> and 12<sup>th</sup> grade ( $r=.51$ ), and school absenteeism, with the strongest correlation between 9<sup>th</sup> and 10<sup>th</sup> grade ( $r=.87$ ) and the weakest correlation between 6<sup>th</sup> and 12<sup>th</sup> grade ( $r=.16$ ), were consistent over time. Positive correlations were found between peer victimization and school absenteeism. In

additions, both peer victimization and school absenteeism were positively correlated with academic difficulties.

### **Cross-lagged model**

The goodness of fit indices, including the CFI, RMSEA, and SRMR, are presented in Table 3, and the results of the model comparison are presented in Table 4. Model 1 (within-time covariance) had poor fit to the data (CFI, 0.136; RMSEA, 0.166 [90% CI, 0.162- 0.170]; SRMR, 0.323), as did Model 2 with the addition of one-year stability paths (CFI, 0.864; RMSEA, 0.068 [90% CI, 0.064-0.073]; SRMR, 0.150). Model 3, with the addition of two-year stability paths (CFI, 0.953; RMSEA, 0.042 [90% CI, 0.037-0.047]; SRMR, 0.118), was an adequate fit to the data. Model 4, including within-time covariance, stability paths, and cross-lagged paths, had excellent fit to the data (CFI, 0.979; RMSEA, 0.031 [90% CI, 0.025-0.038]; SRMR, 0.039), and was a significant improvement on model 3 (CD= 1.2680, TRd= 174.3137,  $\Delta df = 42$ ,  $P < 0.01$ ). The final model consisted of within-time relations, stability paths, and cross-lagged paths (Model 3) that were statistically significant (Figure 1). The nonsignificant paths were removed from the final model for ease of interpretation.

### **Sex differences**

A multi-group model in which all paths were allowed to vary freely across gender (Model 5) was compared to a model where all paths were constrained to be equal across gender (model 6). The unconstrained model had excellent fit to the data (CFI, 0.970; RMSEA, 0.041 [90% CI, 0.034-0.048]; SRMR, 0.045) and was a better fit than the constrained model (CFI, 0.947; RMSEA, 0.048 [90% CI, [0.042-0.053]; SRMR, 0.081) as evidenced by the statistically significant change in chi-square (CD= 1.3761,  $\Delta \chi^2 = 251.515$ ,  $\Delta df = 105$ ;  $p < .01$ ). Significant differences in model fit indicated that there were gender variations in the cross-lagged paths between victimization, academic functioning, and school attendance. See Figure 2 and Figure 3 for the final multi-group models that included standardized coefficients.

### **Self-perceived peer victimization**

Peer victimization was concurrently associated with decreased GPA in 5<sup>th</sup> ( $r = -.23$ ) and 11<sup>th</sup> ( $r = -.10$ ) grade, and increased absences in 5<sup>th</sup> ( $r = .11$ ) and 12<sup>th</sup> ( $r = .13$ ) grade.

The results of the analyses investigating gender differences in the predictive association between peer victimization and academic functioning revealed that being a target of bullying was linked to GPA and absences. Specifically, peer victimization in 8<sup>th</sup> grade predicted decreased

GPA ( $\beta=-.08$ ) and increased absences ( $\beta=.12$ ) in 9<sup>th</sup> grade for girls. For boys, being a target of bullying in 7<sup>th</sup> grade was predictive of decreased GPA in 8<sup>th</sup> grade ( $\beta=-.10$ ), whereas victimization by peers in 10<sup>th</sup> grade predicted higher GPA in 11<sup>th</sup> grade ( $\beta=.07$ ).

### **School absences**

School absenteeism was concurrently associated with academic achievement in 5<sup>th</sup>, 6<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade ( $r=-.13 - r=-.51$ ). In addition to within-time associations, a number of cross-lagged links were found with school absenteeism in 5<sup>th</sup> and 10<sup>th</sup> grade predicting increased peer victimization in 6<sup>th</sup> and 11<sup>th</sup> grade ( $\beta=.10, \beta=.11$ ). Being absent from school in 6<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> grade predicted lower GPA in 7<sup>th</sup>, 8<sup>th</sup>, and 10<sup>th</sup> grade ( $\beta=-.09, \beta=-.08, \text{ and } \beta=-.14$ ), respectively.

Gender differences in the association between school absenteeism, peer victimization, and academic achievement revealed that school absenteeism was linked to peer victimization and academic functioning. Being absent from school in 5<sup>th</sup> grade was longitudinally associated with increases in peer victimization in 6<sup>th</sup> grade ( $\beta=.13$ ) for girls. Absenteeism in 8<sup>th</sup> grade was predictive of decreased peer victimization in 9<sup>th</sup> grade ( $\beta=-.22$ ) for boys. Girls who were absent in 6<sup>th</sup> and 7<sup>th</sup> grade had a lower GPA in 7<sup>th</sup> ( $\beta=-.07$ ) and 8<sup>th</sup> ( $\beta=-.14$ ) grade. Being absent from school in 9<sup>th</sup> grade was predictive of poorer grades in 10<sup>th</sup> grade ( $\beta=-.18$ ) for boys.

### **Academic performance**

Academic difficulties were linked to peer victimization and school absenteeism both concurrently and longitudinally. Poor academic outcomes in 5<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade predicted increased absences in 6<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup>, and 12<sup>th</sup> grade ( $\beta=-.10, \beta=-.17, \beta=-.14, \beta=-.20, \beta=-.17$ ), respectively. Although lower GPA in 9<sup>th</sup> grade predicted increased peer victimization in 10<sup>th</sup> grade ( $\beta=-.10$ ), poor academic achievement in 10<sup>th</sup> grade was predictive of decreased peer victimization in 11<sup>th</sup> grade ( $\beta=.15$ ).

Poor academic achievement in 9<sup>th</sup> grade predicted increased peer victimization in 10<sup>th</sup> grade ( $\beta=-.18$ ) for girls. Academic underachievement in 5<sup>th</sup>, 7<sup>th</sup>, 8<sup>th</sup>, 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade predicted increased absences 1 year later (Grade 5 to 6,  $\beta=-.12$ ; Grade 7 to 8,  $\beta=-.10$ ; Grade 8 to 9,  $\beta=-.24$ ; Grade 9 to 10,  $\beta=-.19$ ; Grade 10 to 11,  $\beta=-.20$ ; Grade 11 to 12,  $\beta=-.21$ ) for girls. For boys, lower GPA in 5<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> grade had negative effects on school attendance 1 year later (Grade 5 to 6,  $\beta=-.10$ ; Grade 8 to 9,  $\beta=-.14$ ; Grade 10 to 11,  $\beta=-.27$ ; Grade 11 to 12,  $\beta=-.11$ ).

### Control variables

We examined the possible effects of ethnicity, household income, and parental education on peer victimization, academic achievement, and school attendance (Model 7) using the covariance matrix in Mplus. Model fit statistics and model comparison tests between Model 7 with control variables (CFI, 0.984; RMSEA, 0.025 [90% CI, 0.018-0.031]; SRMR, 0.040) and Model 4 without control variables (CFI, 0.979; RMSEA, 0.031 [90% CI, 0.025-0.038]; SRMR, 0.039) revealed that Model 7 had similar fit to that of Model 4. However, Model 4 had a lower AIC value (AIC = 64832.612) than Model 7 (AIC = 69740.294), indicating that Model 4 without control variables had a better fit. All statistically significant pathways are presented in Figure 1.

### Indirect effects

Using the model *indirect* command in Mplus version 8 (Muthén & Muthén, 1998-2010) with percentile bootstrapping (5,000), pathways with three or more time points were identified and tested for significance. Being absent from school in 9<sup>th</sup> grade was indirectly associated with increased peer victimization in 11<sup>th</sup> grade through its effect on academic achievement in 10<sup>th</sup> grade ( $b = -.003, p = .023$ ); however, when tested for gender differences, the indirect effect was only significant for boys ( $b = -0.024, p = 0.038$ ).

### Discussion

The present study advances the literature by furthering our understanding of the temporal sequence of self-perceived peer victimization, academic achievement, and school absenteeism; and the indirect effects of these relations. Although a number of studies have examined the concurrent and short-term effects of peer victimization on academic achievement and school absenteeism, few studies have explored the temporal sequence linking the variables together. To our knowledge, this is the first 8-year longitudinal study to explore the relations between peer victimization, academic achievement, and school absenteeism across the years of elementary and secondary school.

### Stability

Self-reported victimization was stable across childhood and adolescence, which is in line with previous studies that found that children and youth display a stable pattern of peer victimization over time (Scholte, Engels, Overbeek, de Kemp, & Haselager, 2007; Pouwels, Souren, Lansu, & Cillessen, 2016). This is not surprising given that peers have been shown to

reinforce bullying and peer victimization by selecting and creating environments that promote and maintain their behaviour (Scholte et al., 2007) and thereby locking perpetrators and targets into their specific roles (DeRosier, Cillessen, Coie, & Dodge, 1994; Scholte et al., 2007). These results demonstrated strong support for the need to intervene at an early age and break the vicious cycle of bullying.

Academic achievement and school absences were also stable across childhood and adolescence. Individual differences in academic achievement were highly stable over time (Rimfeld et al., 2018) and have been shown to be substantially affected by genetic influences and environmental differences (Thompson, Detterman, & Plomin, 1991). Although genetics can account for 40-60% of individual differences in achievement (Kovas, Haworth, Dale, Plomin, 2007; Rimfeld et al., 2018; Smith-Woolley, Ayorech, Dale, von Stumm, & Plomin, 2018), being absent from school can have a detrimental effect on academic achievement (Coelho et al., 2015), with children who were absent from school at increased risk of poor academic outcomes (Morrissey, Hutchison, & Winsler, 2014). Being absent from school was stable across time, which supported previous research that found that students who missed 2 to 4 days of school in September were five times more likely to be chronically absent over the school year, compared to students who missed fewer than 2 days of school (Olson, 2014). These results emphasize the importance of improving students' achievement and attendance at an early age in interrupting its continuity over time. Indeed, children and youth with higher intelligence tend to have better mental and physical health and fewer illnesses throughout their life span (Plomin & Deary, 2015)

### **Concurrent Associations**

Peer victimization was concurrently associated with academic difficulties in 5<sup>th</sup> and 11<sup>th</sup> grade, which is consistent with studies showing that peer victimization was linked to poor academic performance (Juvonen et al., 2000; Nakamoto & Schwartz, 2010). The strength of the association between self-perceived victimization and academic achievement ( $r = -.23$ ;  $r = -.10$ ) is in line with that of Walker and Nabuzoka (2007), who reported a small but concurrent association between peer victimization and academic achievement. Being a target of bullying may result in elevated levels of distress (Crick & Bigbee, 1998; Hanish & Guerra, 2002), which may interfere with individuals' cognitive processes (e.g., attention and concentration difficulties), making it difficult for them to learn and actively participate in a classroom (Schwartz, Gorman, Nakamoto, & Toblin, 2005). It is also plausible, for example, that children and youth who experience

academic difficulties (e.g., difficulty paying attention and following instruction) are at risk of victimization in the peer group (Mishna, 2003). In this case, peer victimization could be viewed as the consequence of poor academic achievement.

Another key finding is that peer victimization was concurrently associated with school absenteeism in 5<sup>th</sup> and 12<sup>th</sup> grade, which supported previous findings that targets of bullying may perceive their school as an unsafe environment (Aluede, 2004; Vaillancourt et al., 2010) and engage in school avoidance behaviour (Dunne et al., 2010) to prevent or reduce further victimization (Hutzell & Payne, 2012). It may be the case that being absent from school increases the risk of peer victimization in that school absentees had been found to make and receive fewer friendships (Carroll, 2011) that may protect them from being victimized (Savage, 2005).

Even though it was not one of the aims of the thesis, elementary school-aged children were at greater risk of peer victimization, which supported the findings that younger children tend to report higher levels of victimization compared to their older peers (Brown, Birch, & Kancherla, 2005). Girls, although academically outperforming boys, reported higher rates of bullying victimization, with the highest rate of victimization in 5<sup>th</sup> grade, which lends support to the premise that girls are much more likely than boys to be bullied at school (OECD, 2009).

With the exception of seventh grade, school absenteeism was concurrently associated with poor academic outcomes across the years of elementary and secondary school. Children and youth who have higher rates of absences may miss out valuable learning opportunities (Storch & Masia-Warner, 2004), resulting in poor academic performance (Kearney & Bensaheb, 2006). It is also plausible that poor academic performance can have a negative influence on school attendance (Feldman et al., 2014) in that students' motivation may decrease as a result of lower grades (Whitley et al., 2007).

In line with previous research (Isakson & Jarvis, 1999; Barber & Olsen, 2004), girls and boys experienced greater school adjustment difficulties over time, with girls developing greater school attendance problems across the years of elementary and secondary school. Studies show that increases in absences can be due to changes in a curriculum (Attwood & Croll, 2006), decline in motivation (Whitley et al., 2007), a mismatch between students' needs and teachers support (Peacock, 2001), developmental changes as part of adolescence (Bellmore, Huang,

Bowman, white, & Cornell, 2016), or peer group influences (Kinder, Wakefield, & Wilkin, 1996).

### **Cascade model**

Peer victimization was associated with academic achievement and school absenteeism concurrently and longitudinally. Results of the analyses demonstrated gender differences in the longitudinal effect of peer victimization on academic achievement and school attendance. For girls, being the target of bullying at the end of elementary school (8<sup>th</sup> grade) predicted decreased GPA and increased absences at the beginning of secondary school (9<sup>th</sup> grade). The results replicate and extend previous research (Dunne et al., 2010; Hutzell & Payne, 2012) that found that targets of bullying were at greater risk of school absenteeism (Dunne et al., 2013) and poor academic outcomes (Nakamoto & Schwartz, 2010; Espelage et al., 2013) by showing that girls who were victimized by their peers were at increased risk of academic underachievement and disengagement as they transitioned to secondary school. Reducing peer victimization in the last year of elementary school, may therefore, protect girls as they transition to secondary school (Mandy et al., 2016). Results showed age-related patterns in response to bullying with elementary-school aged boys at increased risk of poor academic outcomes in response to peer victimization (being bullied in 7<sup>th</sup> grade predicted decreased GPA in 8<sup>th</sup> grade), compared to secondary school-aged boys (being bullied in 10<sup>th</sup> grade predicted higher GPA in 11<sup>th</sup> grade). The results indicate that secondary school-aged boys may turn to school as an escape route from bullying, increasing their academic outcomes (Woods & Wolke, 2004).

Consistent with the findings of research on school engagement (Ladd, Birch, & Buhs, 1999; Skinner & Pitzer, 2012), school absenteeism was concurrently and longitudinally associated with peer victimization. For girls, being absent from school in 5<sup>th</sup> grade predicted increased peer victimization in 6<sup>th</sup> grade, indicating that school absenteeism can have a negative effect on student-perceived relationships with peers. Children with higher rates of absences were more likely to report negative experiences with peers (e.g., bullying) in that children select and are selected by others based on their engagement in school (Skinner & Pitzer, 2012), with more engaged children developing closer relationships with their peers over time (Ladd et al., 1999). Peer relationships play an important role in children's emotional, cognitive, and social development (Martin-Anton, Monjas, Bacete, & Jimenez, 2016), with positive relationships working as buffers against peer victimization (Bagwell & Schmidt, 2011). For boys, being absent

from school in 8<sup>th</sup> grade was predictive of decreased victimization in 9<sup>th</sup> grade, which supported previous cross-sectional (Rigby, 1998; Dunne et al., 2010) and longitudinal studies (Kochenderfer & Ladd, 1996; Buhs et al., 2006) indicating that being absent from school reduces peer victimization (Hutzell & Payne, 2012). Girls who are absent from school are at increased risk of peer victimization, in comparison to boys, in that girls' and boys' may grow up in different peer cultures (Underwood, 2007), where girls' friendships rely on "face-to-face" contact, while boys' friendships are considered "side-by-side" (Wright, 1982). In an experimental design, Felmlee and Muraco (2009) found that females tend to place greater value on intimate connections, while in a special issue, Underwood (2007) claimed that female friendships are fostered and maintained through communication and support. Male friendships are less intimate (Felmlee, 1999) and are found to focus on shared activities (side-by-side; Rubin, 1985).

Problems associated with underachievement were the most notable for secondary school-aged girls, with poor academic outcomes in 9<sup>th</sup> grade predicting increased victimization in 10<sup>th</sup> grade. Results extend previous findings on the link between academic achievement and peer victimization (Schwartz et al., 2002; Mishna, 2003), with underachieved children and youth at greater risk of peer victimization (Schwartz et al., 2002), by highlighting that the effects of poor academic outcomes on subsequent peer victimization were greater during adolescence than in childhood. Children and youth, both girls and boys, tend to experience greater levels of academic pressure as they grow older (Klinger et al., 2015), with older girls reporting higher levels of pressure than their male peers (Jones, 1993; Klinger et al., 2015). With that being said, underachieved girls, but not boys, were at highest risk of victimization, with high-academic achievers being more accepted by their peers than low academic achievers (Austin & Draper, 1984). The results may indicate gender-based preferences or interests (e.g., differences in occupational choices), but it may also reflect cultural expectations and norms in Canada with a strong focus on the performance and achievements of female students. Women account for the majority of postsecondary graduates in all provinces and territories, with a larger proportion of women earning a university degree (15% in 1991 and 35% in 2015) than men (19% in 1991 and 30% in 2015; Statistics Canada, 2016). The percentage of women who had a high school diploma as their highest level of education (31% in 1991 to 23% in 2015) was lower than that of

men (26% in 1991 to 25% in 2015; Statistics Canada, 2016). Thus, the rising expectations for girls to perform well in school may place underachieved girls at risk of peer victimization.

Being absent from school has an immediate and long-term negative effect on children's and adolescents' academic achievement. The total number of days absent from school was longitudinally associated with academic achievement in that for girls, being absent from school in 6<sup>th</sup> and 7<sup>th</sup> grade led to lower grades in 7<sup>th</sup> and 8<sup>th</sup> grade, whereas for boys, being absent from school in 9<sup>th</sup> grade was predictive of poorer grades in 10<sup>th</sup> grade. Students who were absent from school received fewer hours of instruction (Gottfried, 2009) and failed to benefit from teacher-led lessons (Morrissey et al., 2014), resulting in poor academic outcomes (Peterson & Colangelo, 1996). Poor academic performance in 5<sup>th</sup>, 8<sup>th</sup>, 10<sup>th</sup>, 11<sup>th</sup> (for girls and boys), 7<sup>th</sup>, and 9<sup>th</sup> (for girls) grade predicted increased absences 1 year later, indicating that poor academic performance can have a long-term negative impact on school attendance (Feldman et al., 2014) in that students' motivation may decrease as a result of lower grades (Whitley et al., 2007). The results supported previous cross-sectional (Roby, 2004) and longitudinal studies (Feldman et al., 2014) showing that school absenteeism may lead to poor academic outcomes (Peterson & Colangelo, 1996) which may, in turn, lead to subsequent changes in attendance (Feldman et al., 2014).

A mediation model revealed that being absent from school in 9<sup>th</sup> grade predicted lower GPA in 10<sup>th</sup> grade which in turn predicted increased peer victimization in 11<sup>th</sup> grade; however, when tested for gender differences, the indirect effect was only significant for boys. The finding is consistent with studies showing that school disengagement places students at risk of academic underachievement (Kearney & Bensaheb, 2006), which in turn places students at increased risk of peer victimization (Schwartz et al., 2002). Although few studies have tested academic achievement as a mediator, there is some evidence to suggest that there are gender differences in the relations between school disengagement and peer victimization (Stubbs-Richardson, Sinclair, Goldberg, Ellithorpe, & Amadi, 2017) in that for girls, poor peer relationships may explain the link between school absenteeism and peer victimization.

## **Conclusion**

The present study addresses links between peer victimization, academic achievement, and school attendance, with a specific focus on the temporal sequence linking the variables together. Girls with higher rates of absences were at increased risk of victimization in that children select and are selected by others based on their engagement in school (Skinner & Pitzer, 2012), with

more engaged children developing closer relationships with their peers (Ladd et al., 1999). Boys who were absent from school experienced a decline in peer victimization, indicating that some children may skip school as a strategy to avoid being bullied. The results reflect differences in peer interactions among girls and boys (Rose & Rudolph, 2011), with girls who were absent from school at increased risk of becoming targets of bullying.

School attendance was critical to students' academic success, but more importantly, our results showed that underachieved students were at increased risk of school absenteeism. These findings suggest that being absent from school can lead to a vicious cycle, or a positive feedback loop, in which school absenteeism predicts poor academic achievement, which in turn, leads to subsequent changes in attendance. The results emphasize the importance of identifying student disengagement in the early years and focusing intervention efforts on interrupting the cycle. It is apparent that problems associated with underachievement were the most notable for secondary school-aged girls, with poor academic outcomes predicting increased rates of victimization. Although, it is worth noting that the results may reflect cultural norms and values on the importance of education and academic achievements of young women.

Through this work, the importance of creating positive relationships in facilitating active participation in learning and school became apparent. Positive relationships were the most important in school success for girls, with peer relationships contributing to both student engagement and achievement. Research has shown that girls, but not boys, performed better academically in the years in which they had more friends and were not rejected by their peers (Zitzmann, 2005). Results revealed age-related patterns in response to bullying with elementary school-aged boys at increased risk of poor academic outcomes in response to victimization, compared to secondary school-aged boys. The results suggest that secondary school-aged boys may use better coping strategies to overcome the difficulties of being bullied by peers. Teachers, principals, and school administrators play a central role in empowering young Canadians with education by promoting the importance of attendance in the learning success of the student and in the development of a positive learning environment.

### **Strengths and Limitations**

There are a number of strengths in the present study, including the use of a large sample size. The current study uses a large sample of students from 5<sup>th</sup> grade (T1; 2008) to 12<sup>th</sup> grade (T8; 2015) at 51 randomly drawn schools from Southern Ontario. The large sample size, as well

as the random sample of the population, increases the chance that the findings are representative of the population. Another strength is the use of longitudinal research design to examine the relation between peer victimization, academic achievement, and school attendance. To the best of our knowledge, this is the first 8-year longitudinal study exploring the temporal sequence between peer victimization, academic achievement, and school attendance.

Strengths of this study also include the use of teacher-reported measures of academic outcomes derived from the Ontario School Records. Although self-reported grades were commonly used in previous studies, self-reported grades may not provide an accurate reflection of student's actual grades (Dobbins, Farh, & Werbel, 1993) as students have been shown to over-report their reading scores by .60 SD (Alexander, Entwisle, & Bedinger, 1994).

Despite the strengths of this study, a potential limitation is the use of single rather than multiple informants of peer victimization. Children and adolescents may under- or over-report the number and severity of bullying incidents. Though informant reports, such as peer or teacher reports, may buffer against desirability bias and provide a better insight into the participants traits (McDonald, 2008), self-report measures are helpful in assessing forms of peer victimization that are not apparent to the public (Green, Felix, Sharkey, Furlong, & Kras, 2013). Though victimized students may not be perceived as targets by their peers (Oldenburg et al., 2015), advocates of self-report measures argue that a student's perception of peer victimization is closely related to academic performance compared to peer and teacher reports of victimization. Children are more sensitive to negative peer treatment (Ladd & Kochenderfer-Ladd, 2002) and may, in turn, provide a more reliable estimate of the frequency in which they have been victimized (Olweus, 2003).

Another limitation of the study is the use of school records of attendance to examine students change in absences as they progress through school. Although school records of attendance are more reliable than subjective measures of attendance, there are a number of factors (e.g., parental involvement) that can explain or cause poor school attendance. Since the root causes of student absenteeism are complex, it can be difficult to pinpoint the underlying causes of school absenteeism among children and youth.

The study drew participants from one geographic region, which limits our ability to generalize the findings to other geographical regions. Results from self-report measures may be influenced by individuals' affective and cognitive states prior to completing the survey. Future

research should examine whether relationships with teachers mitigate the link between peer victimization and academic achievement.

Another limitation relates to missing data, which is a common problem in longitudinal studies. Incomplete data are not unusual when individuals are repeatedly measured over time (Laird, 1988) in that participants may withdraw from the study, refuse to respond to specific questions, or are difficult to locate. Refusal to participate in the study can be random, but it can also be related to social and biological characteristics of the participant (Wolke et al., 2009). Research refusal may compromise the generalizability of the results (Jones, 1996) in that those who refuse to participate in the study often differ from participants who remain in the study (Mfutso-Bengo, Masiye, Molyneux, Ndebele, & Chilungo, 2008). Students who were hard to reach for enrollment and follow-up were relatively more likely to experience poverty, intellectual difficulties, and poor mental health (David, Alati, Ware, & Kinner, 2012). Addressing participation bias is important in exploring academic achievement and school absenteeism in that those who do not participate may differ from those who do.

Children who have agreed to participate in the study were potentially different from those who did not participate in that chronically absent students were more likely to have missed school on the day that the questionnaires were administered. For example, Ripski and Gregory (2009) explored the impact of bullying on academic achievement and school attendance, finding that targets of bullying were more likely to miss school and have reduced achievement. It is important to recruit and retain underrepresented, high-risk, and vulnerable individuals in that they may possess certain traits that affect the outcome of the research.

### **Contribution to Research**

Despite the prolific research on school bullying, few studies have examined the temporal sequence between peer victimization, academic achievement, and school attendance. In this study, we examined the gaps in the literature regarding the bidirectional relationship between peer victimization and academic achievement, age-related differences pertaining to individual responses to perceived peer victimization in terms of school attendance, the temporal sequence linking the variables together, and gender difference in the temporal sequence. Establishing a link between the variables is important in pursuing justice in education. Although there has been significant progress in ensuring access to education for children from ages 5/6 to 18/21 years of

age, there are many obstacles to be removed and supports to be developed in ensuring a safe learning environment that is free of violence and bullying.

Given that being a target of bullying was predictive of decreased GPA and increased absences, targets of bullying are threatened in a manner that violates their right to an education that is enshrined in the United Nations (UN) Convention on the Rights of the Child that emphasizes the state's obligation to "take measures to encourage regular attendance at schools and the reduction of drop-out rates" (CRC, Article 28.1.e) and to ensure "the development of the child's personality, talents and mental and physical abilities to their fullest potential" (CRC, Article 29.1.a). The results indicate the importance of developing more effective laws, policies, and regulations that protect children and youth from becoming targets of bullying. Policymakers and school administrators have a legal responsibility for creating and maintaining a safe environment that empowers children and youth to be full and active participants in society.

Since there is a significant relationship between peer victimization and academic achievement, it is critical that policies and procedures are put into place that requires teachers and principals to be educated of the nature and effects of bullying (Espelage et al., 2013) in that teachers' perceptions of bullying may influence their willingness and preparedness to intervene (Boulton, 1997; Craig, Bell, & Leschied, 2011). Researchers in recent years have also emphasized the importance in creating interventions and policies that foster student's empathy for victims of bullying (Espelage et al., 2013) in that empathy can inhibit or reduce bullying (Gini, Albiero, Benelli, & Altoe, 2007) and increase the likelihood that a bystander will choose to supportively intervene (Barlińska, Szuster, & Winiewski, 2018).

This research study extends our knowledge about targets of bullying and the rise of irregular attendance in Canadian schools. Although excused absences related to health reasons are unavoidable, unexplained absences are related to a range of long-term adverse outcomes. For example, being absent from school had a significant negative effect on academic achievement (as assessed by GPA) and student-perceived relationships with peers. Students who were absent from school received fewer hours of instruction (Gottfried, 2009) and failed to benefit from teacher-led lessons (Morrissey et al., 2013), resulting in poor academic outcomes (Peterson & Colangelo, 1996). It is apparent from the analysis that underachieved students were at risk of increased absences and peer victimization. Effective interventions may include providing support and resources to address individual factors that contribute to absences and improve academic and

educational outcomes of children and youth. Railsback (2004) emphasized the importance of developing attendance policies and practices that can set clear standards and high expectations to help students develop self-discipline and to promote a positive school climate. Brigman and Campbell (2003) found that school-counsellor led interventions were the most promising in improving students' academic achievement and behaviour. The authors pointed out the importance of focusing interventions on the cognitive, social, and self-management skills that are vital for school success.

The right to education goes beyond ensuring equal access to education. It is also about providing a safe learning environment to ensure that children and youth complete secondary education with the knowledge and skills necessary to cope with today's challenges. Education is strongly linked to concrete improvement in employment status, health, and life expectancy. Indeed, education is a key driver in reducing poverty and fostering economic growth.

### References

- Alexander, K. L., Entwisle, D. R., & Bedinger, S. D. (1994). When Expectations Work: Race and Socioeconomic Differences in School Performance. *Social Psychology Quarterly*, *57*(4), 283. doi:10.2307/2787156
- Aluede, O. (2004). Psychological Maltreatment of Students: A Form of Child Abuse and School Violence. *Journal of Human Ecology*, *16*(4), 265–270. doi:10.1080/09709274.2004.11905748
- Ando, M., Asakura, T., & Simons-Morton, B. (2005). Psychosocial influences on physical, verbal, and indirect bullying among Japanese early adolescents. *The Journal of Early Adolescence*, *25*(3), 268–297. doi:10.1177/0272431605276933
- Archer, J. (2004). Sex Differences in aggression in real-world settings: A meta-analytic review. *Review of General Psychology*, *8*(4), 291–322. doi:10.1037/1089-2680.8.4.291
- Archer, J., & Coyne, S. M. (2005). An Integrated Review of Indirect, Relational, and Social Aggression. *Personality and Social Psychology Review*, *9*(3), 212–230. doi:10.1207/s15327957pspr0903\_2
- Attwood, G., & Croll, P. (2006). Truancy in secondary school pupils: prevalence, trajectories and pupil perspectives. *Research Papers in Education*, *21*(4), 467–484. doi:10.1080/02671520600942446
- Austin, A. M. B., & Draper, D. C. (1984). The relationship among peer acceptance, social impact, and academic achievement in middle childhood. *American Educational Research Journal*, *21*(3), 597. doi:10.2307/1162918
- Bagwell, C. L., & Schmidt, M. E. (2011). The Friendship Quality of Overtly and Relationally Victimized Children. *Merrill-Palmer Quarterly*, *57*(2), 158–185. doi:10.1353/mpq.2011.0009
- Balfanz, R., & Byrnes, V. (2012). Chronic absenteeism: Summarizing what we know from nationally available data. Baltimore: Johns Hopkins University Center for Social Organization of Schools.
- Baly, M. W., Cornell, D. G., & Lovegrove, P. (2014). A longitudinal investigation of self- and peer reports of bullying victimization across middle school. *Psychology in the Schools*, *51*(3), 217–240. doi:10.1002/pits.21747

- Bandura, A. (1978). Social Learning Theory of Aggression. *Journal of Communication*, 28(3), 12–29. doi:10.1111/j.1460-2466.1978.tb01621.x
- Barber, B. K., & Olsen, J. A. (2004). Assessing the Transitions to Middle and High School. *Journal of Adolescent Research*, 19(1), 3–30. doi:10.1177/0743558403258113
- Barker, E. D., Arseneault, L., Brendgen, M., Fontaine, N., & Maughan, B. (2008). Joint development of bullying and victimization in adolescence. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(9), 1030–1038. doi:10.1097/chi.0b013e31817eec98
- Barlińska, J., Szuster, A., & Winiewski, M. (2018). Cyberbullying Among Adolescent Bystanders: Role of Affective Versus Cognitive Empathy in Increasing Prosocial Cyberbystander Behavior. *Frontiers in Psychology*, 9. doi:10.3389/fpsyg.2018.00799
- Barnes, A., Cross, D., Lester, L., Hearn, L., Epstein, M., & Monks, H. (2012). The invisibility of covert bullying among students: challenges for school intervention. *Australian Journal of Guidance and Counselling*, 22(02), 206–226. doi:10.1017/jgc.2012.27
- Barrett, K. L., Jennings, W. G., & Lynch, M. J. (2012). The relation between youth fear and avoidance of crime in school and academic experiences. *Journal of School Violence*, 11(1), 1–20. doi:10.1080/15388220.2011.630309
- Baumeister, A. L., Storch, E. A., & Geffken, G. R. (2007). Peer victimization in children with learning disabilities. *Child and Adolescent Social Work Journal*, 25(1), 11–23. doi:10.1007/s10560-007-0109-6
- Bellmore, A., Huang, H., Bowman, C., White, G., & Cornell, D. (2016). The Trouble with Bullying in High School: Issues and Considerations in Its Conceptualization. *Adolescent Research Review*, 2(1), 11–22. doi:10.1007/s40894-016-0039-7
- Benbenishty, R., Astor, R. A., Zeira, A., & Vinokur, A. D. (2002). Perceptions of violence and fear of school attendance among junior high school students in Israel. *Social Work Research*, 26(2), 71–87. doi:10.1093/swr/26.2.71
- Beeson, C. M. L., & Vaillancourt, T. (2016). The short-and long-term health and education outcomes of peer victimization: implications for educators and clinicians. *From medical and psychosocial problems in the classroom: the teacher's role in diagnosis and management*. 5th ed. Austin, TX: PRO-ED, 445-468.

- Björkqvist, K. (1994). Sex differences in physical, verbal, and indirect aggression: A review of recent research. *Sex Roles, 30*(3-4), 177–188. doi:10.1007/bf01420988
- Björkqvist, K., Österman, K., & Kaukiainen, A. (1992). The development of direct and indirect aggressive strategies in males and females. *Of Mice and Women, 51–64*. doi:10.1016/b978-0-12-102590-8.50010-6
- Bond, L., Carlin, J. B., Thomas, L., Rubin, K., & Patton, G. (2001). Does bullying cause emotional problems? A prospective study of young teenagers. *BMJ, 323*(7311), 480–484. doi:10.1136/bmj.323.7311.480
- Bowers, L., Smith, P. K., & Binney, V. (1994). Perceived family relationships of bullies, victims and bully/victims in middle childhood. *Journal of Social and Personal Relationships, 11*(2), 215–232. doi:10.1177/0265407594112004
- Boulton, M. J. (1997). Teachers' views on bullying: Definitions, attitudes and ability to cope. *British Journal of Educational Psychology, 67*(2), 223-233.
- Bowlby J. (1969). *Attachment. Attachment and loss: Vol. 1. Loss*. New York: Basic Books.
- Bradshaw, C. P., Waasdorp, T. E., & Johnson, S. L. (2014). Overlapping verbal, relational, physical, and electronic forms of bullying in adolescence: Influence of school context. *Journal of Clinical Child & Adolescent Psychology, 44*(3), 494–508. doi:10.1080/15374416.2014.893516
- Brame, B., Nagin, D. S., & Tremblay, R. E. (2001). Developmental trajectories of physical aggression from school entry to late adolescence. *Journal of Child Psychology and Psychiatry, 42*(4), 503–512. doi:10.1111/1469-7610.00744
- Brigman, G., & Campbell, C. (2003). Helping Students Improve Academic Achievement and School Success Behavior. *Professional School Counseling, 7*(2), 91-98.
- Brown, S. L., Birch, D. A., & Kancherla, V. (2005). Bullying Perspectives: Experiences, Attitudes, and Recommendations of 9- to 13-Year-Olds Attending Health Education Centers in the United States. *Journal of School Health, 75*(10), 384–392. doi:10.1111/j.1746-1561.2005.00053.x
- Buhs, E. S., & Ladd, G. W. (2001). Peer rejection as antecedent of young childrens school adjustment: An examination of mediating processes. *Developmental Psychology, 37*(4), 550-560. doi:10.1037//0012-1649.37.4.550

- Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006). Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement? *Journal of Educational Psychology, 98*(1), 1-13. doi: 10.1037/0022-0663.98.1.1
- Bullying. Society at a Glance 2009: OECD Social Indicators 2009.
- Byers, D. L., Caltabiano, N. J., & Caltabiano, M. L. (2011). Teachers' attitudes towards overt and covert bullying, and perceived efficacy to intervene. *Australian Journal of Teacher Education, 36*(11). doi:10.14221/ajte.2011v36n11.1
- Card, N. A., & Hodges, E. V. E. (2008). Peer victimization among schoolchildren: Correlations, causes, consequences, and considerations in assessment and intervention. *School Psychology Quarterly, 23*(4), 451–461. doi:10.1037/a0012769
- Card, N. A., Stucky, B. D., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child Development, 79*(5), 1185–1229. doi:10.1111/j.1467-8624.2008.01184.x
- Carroll, H. C. M. (Tim). (2011). The peer relationships of primary school pupils with poor attendance records. *Educational Studies, 37*(2), 197–206. doi:10.1080/03055698.2010.510240
- Chang, H., & Romero, E. (2008). “Present, Engaged, and Accounted for: The Critical Importance of Addressing Chronic Absence in the Early Grades.” Report. National Center for Children in Poverty.
- Cleverley, K., Szatmari, P., Vaillancourt, T., Boyle, M., & Lipman, E. (2012). Developmental trajectories of physical and indirect aggression from late childhood to adolescence: Sex differences and outcomes in emerging adulthood. *Journal of the American Academy of Child & Adolescent Psychiatry, 51*(10), 1037-1051.
- Coelho, R., Fischer S., McKnight F., Matteson S., Schwartz T. (2015). The effects of early chronic absenteeism on third-grade academic achievement measures. Retrieved from <https://www.lafollette.wisc.edu/images/publications/workshops/2015-dpi-absenteeism.pdf>

- Connolly, F. & Olson, L. S. (2012). Early elementary performance and attendance in Baltimore city schools' pre-kindergarten and kindergarten. Baltimore education research consortium, Baltimore, md.
- Cook, C. R., Williams, K. R., Guerra, N. G., Kim, T. E., & Sadek, S. (2010). Predictors of bullying and victimization in childhood and adolescence: A meta-analytic investigation. *School psychology quarterly*, 25(2), 65-83.
- Côté, s. m. (2007). Sex differences in physical and indirect aggression: A developmental perspective. *European journal on criminal policy and research*, 13(3-4), 183–200. doi:10.1007/s10610-007-9046-3
- Côté, S., Vaillancourt, T., LeBlanc, J. C., Nagin, D. S., & Tremblay, R. E. (2006). The development of physical aggression from toddlerhood to pre-adolescence: A nation wide longitudinal study of Canadian children. *Journal of abnormal child psychology*, 34(1), 68-82.
- Craig, W. M. (1998). The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Personality and Individual Differences*, 24(1), 123–130. doi:10.1016/s0191-8869(97)00145-1
- Craig, K., Bell, D., & Leschied, A. (2011). Pre-service Teachers' Knowledge and Attitudes Regarding School-Based Bullying. *Canadian Journal of Education*. 34. 21-33.
- CRC (1989). Convention on the Rights of the Child. Retrieved from <http://www.ohchr.org/Documents/ProfessionalInterest/crc.pdf>
- Crick, N. R., & Bigbee, M. A. (1998). Relational and overt forms of peer victimization: A multiinformant approach. *Journal of Consulting and Clinical Psychology*, 66(2), 337–347. doi:10.1037/0022-006x.66.2.337
- Crick, N. R., Casas, J. F., & Mosher, M. (1997). Relational and overt aggression in preschool. *Developmental Psychology*, 33(4), 579–588. doi:10.1037/0012-1649.33.4.579
- Crick, N. R., & Grotpeter, J. K. (1995). Relational aggression, gender, and social-psychological adjustment. *Child Development*, 66(3), 710. doi:10.2307/1131945
- Cross, D., Shaw, T., Hearn, L., Epstein, M., Monks, H., Lester, L., & Thomas, L (2009). Australian Covert Bullying Prevalence Study (ACBPS). Child Health Promotion Research Centre, Edith Cowan University, Perth.

- Cunningham, C. E., Vaillancourt, T., Rimas, H., Deal, K., Cunningham, L., Short, K., & Chen, Y. (2009). Modeling the bullying prevention program preferences of educators: A discrete choice conjoint experiment. *Journal of abnormal child psychology*, *37*(7), 929-943.
- Dahl, G., & Lochner, L. (2008). The Impact of Family Income on Child Achievement: Evidence from the Earned Income Tax Credit. doi:10.3386/w14599
- David, M. C., Alati, R., Ware, R. S., & Kinner, S. A. (2013). Attrition in a longitudinal study with hard-to-reach participants was reduced by ongoing contact. *Journal of Clinical Epidemiology*, *66*(5), 575–581. doi:10.1016/j.jclinepi.2012.12.002
- Davis-Kean, P. E. (2005). The Influence of Parent Education and Family Income on Child Achievement: The Indirect Role of Parental Expectations and the Home Environment. *Journal of Family Psychology*, *19*(2), 294–304. doi:10.1037/0893-3200.19.2.294
- DeRosier, M. E., Cillessen, A. H. N., Coie, J. D., & Dodge, K. A. (1994). Group social context and children's aggressive behavior. *Child Development*, *65*(4), 1068-1079.
- Dobbins, G. H., Farh, J.-L., & Werbel, J. D. (1993). The Influence of Self-Monitoring on Inflation of Grade-Point Averages for Research and Selection Purposes<sup>1</sup>. *Journal of Applied Social Psychology*, *23*(4), 321–334. doi:10.1111/j.1559-1816.1993.tb01090.x
- Drost, E.A. (2011) Validity and Reliability in Social Science Research. *Education Research and Perspectives*, *38*, 105- 123.
- Dunne, M., Bosumtwi-Sam, C., Sabates, R., & Owusu, A (2010) Bullying and school attendance: a case study of senior high school students in Ghana. Project Report. CREATE, Brighton, UK
- Dunne, M., Sabates, R., Bosumtwi-Sam, C., & Owusu, A. (2013). Peer relations, violence and school attendance: Analyses of bullying in senior high schools in Ghana. *Journal of Development Studies*, *49*(2), 285–300. doi:10.1080/00220388.2012.671472
- Egger, H. L., Costello, J. E., & Angold, A. (2003). School refusal and psychiatric disorders: A community study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *42*(7), 797–807. doi:10.1097/01.chi.0000046865.56865.79
- Esbensen, F. A., & Carson, D. C. (2009). Consequences of being bullied: Results from a longitudinal assessment of bullying victimization in a multisite sample of American students. *Youth & Society*, *41*, 209–233.

- Espelage, D. L., Bosworth, K., & Simon, T. R. (2000). Examining the social context of bullying behaviors in early adolescence. *Journal of Counseling & Development, 78*(3), 326–333. doi:10.1002/j.1556-6676.2000.tb01914.x
- Espelage, D. L., Hong, J. S., Rao, M. A., & Low, S. (2013). Associations between peer victimization and academic performance. *Theory into Practice, 52*(4), 233–240. doi:10.1080/00405841.2013.829724
- Fandrem, H., Strohmeier, D., & Jonsdottir, K. A. (2012). Peer groups and victimisation among native and immigrant adolescents in Norway. *Emotional and Behavioural Difficulties, 17*(3-4), 273–285. doi:10.1080/13632752.2012.704308
- Feldman, M. A., Ojanen, T., Gesten, E. L., Smith-Schrandt, H., Brannick, M., Totura, C. M. W., ... Brown, K. (2014). The effects of middle school bullying and victimization on adjustment through high school: growth modeling of achievement, school attendance, and disciplinary trajectories. *Psychology in the Schools, n/a–n/a*. doi:10.1002/pits.21799
- Felmlee, D. H. (1999). Social Norms in Same- and Cross-Gender Friendships. *Social Psychology Quarterly, 62*(1), 53. doi:10.2307/2695825
- Felmlee, D., & Muraco, A. (2009). Gender and friendship norms among older adults. *Research on Aging, 31*(3), 318–344. doi:10.1177/0164027508330719
- Fisher, S., Middleton, K., Ricks, E., Malone, C., Briggs, C., & Barnes, J. (2014). Not Just Black and White: Peer Victimization and the Intersectionality of School Diversity and Race. *Journal of Youth and Adolescence, 44*(6), 1241–1250. doi:10.1007/s10964-014-0243-3
- Flook, L., Repetti, R. L., & Ullman, J. B. (2005). Classroom social experiences as predictors of academic performance. *Developmental Psychology, 41*(2), 319–327. doi:10.1037/0012-
- Friedman, P., Rodriguez, F., & McComb, J. (2001). Why students do and do not attend classes. *College Teaching, 49*(4), 124–133. doi:10.1080/87567555.2001.10844593
- Gardella, J. H., Tanner-Smith, E. E., & Fisher, B. W. (2016). Academic Consequences of Multiple Victimization and the Role of School Security Measures. *American Journal of Community Psychology, 58*(1-2), 36–46. doi:10.1002/ajcp.12075
- Giles, J. W., & Heyman, G. D. (2005). Young children's beliefs about the relationship between gender and aggressive behavior. *Child Development, 76*, 107–121. doi: 10.1111/j.1467-8624.2005.00833.x
- Gini, G., Albiero, P., Benelli, B., & Altoe, G. (2008). Determinants of adolescents' active

- defending and passive bystanding behavior in bullying. *Journal of Adolescence*, 31(1), 93-105. doi:10.1016/j.adolescence.2007.05.002
- Glew, G. M., Fan, M. Y., Katon, W. & Rivara, F. P. (2008). Bullying and school safety. *Journal of Pediatrics*, 152, 123–128. doi: <https://doi.org/10.1016/j.jpeds.2007.05.045>
- Glew, G. M., Fan, M.-Y., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of Pediatrics & Adolescent Medicine*, 159(11), 1026-1031. doi:10.1001/archpedi.159.11.1026
- Golafshani, N. (2003). Understanding reliability and validity in qualitative research. *The Qualitative Report*, 8(4), 597-606. Retrieved from <http://nsuworks.nova.edu/tqr/vol8/iss4/6>
- Gottfried, M. A. (2010). Evaluating the relationship between student attendance and achievement in urban elementary and middle schools: An instrumental variables approach. *American Educational Research Journal*, 47(2), 434–465. doi:10.3102/0002831209350494
- Gottfried, M. A. (2009). Excused versus unexcused: How student absences in elementary school affect academic achievement. *Educational Evaluation and Policy Analysis*, 31, 392-419. doi:10.3102/0162373709342467
- Graham, S., & Juvonen, J. (1998). Self-blame and peer victimization in middle school: An attributional analysis. *Developmental Psychology*, 34(3), 587–599. doi:10.1037/0012-1649.34.3.587
- Green, J. G., Felix, E. D., Sharkey, J. D., Furlong, M. J., & Kras, J. E. (2013). Identifying bully victims: Definitional versus behavioral approaches. *Psychological Assessment*, 25(2), 651–657. doi:10.1037/a0031248
- Greenham, S. L. (1999). Learning disabilities and psychosocial adjustment: A critical review. *Child Neuropsychology*, 5(3), 171–196. doi:10.1076/chin.5.3.171.7335
- Grote, J. (1865) *Exploratio Philosophica: Rough Notes on Modern Intellectual Science*, Cambridge: Deighton, Bell and Co.
- Haltigan, J. D., & Vaillancourt, T. (2014). Developmental trajectories of bullying and peer victimization across elementary and middle school and associations with symptoms of

- psychopathology. *Developmental Psychology*, 40 (11), 2426-2436. Dataset.  
doi:10.1037/e574242014-028
- Hallinan, M. T. (2008). Teacher influences on student's attachment to school. *Sociology of Education*, 81(3), 271-283. doi:10.1177/003804070808100303
- Hamre, B. K., & Pianta, R. C. (2001). Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development*, 72(2), 625-638. doi:10.1111/1467-8624.00301
- Hanish, L. D., & Guerra, N. G. (2000). The roles of ethnicity and school context in predicting children's victimization by peers. *American Journal of Community Psychology*, 28(2), 201-223. <http://dx.doi.org/10.1023/A:1005187201519>
- Hanish, L. D., & Guerra, N. G. (2002). A longitudinal analysis of patterns of adjustment following peer victimization. *Development and Psychopathology*, 14(1), 69-89. doi:10.1017/s0954579402001049
- Henderson, K. A. (2011). Post-Positivism and the Pragmatics of Leisure Research. *Leisure Sciences*, 33(4), 341-346. doi:10.1080/01490400.2011.583166
- Holt, M. K., Finkelhor, D., & Kaufman Kantor, G. (2007). Multiple victimization experiences of urban elementary school students: Associations with psychosocial functioning and academic performance. *Child Abuse and Neglect*, 31, 503-515.
- Hong, J. S., & Espelage, D. L. (2012). A review of mixed methods research on bullying and peer victimization in school. *Educational Review*, 64(1), 115-126. doi:10.1080/00131911.2011.598917
- Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6,1-55. doi:10.1080/10705519909540118.
- Hughes, J. N., & Zhang, D. (2007). Effects of the structure of classmates' perceptions of peers' academic abilities on children's perceived cognitive competence, peer acceptance, and engagement. *Contemporary Educational Psychology*, 32(3), 400-419. doi:10.1016/j.cedpsych.2005.12.003
- Hutzell, K. L., & Payne, A. A. (2012). The Impact of Bullying Victimization on School Avoidance. *Youth Violence and Juvenile Justice*, 10(4), 370-385. doi:10.1177/1541204012438926

- Isakson, K., & Jarvis, P. (1999). The Adjustment of Adolescents During the Transition into High School: A Short-Term Longitudinal Study. *Journal of Youth and Adolescence*, *28*(1), 1–26. doi:10.1023/a:1021616407189
- Jamshed, S. (2014). Qualitative research method-interviewing and observation. *Journal of Basic and Clinical Pharmacy*, *5*(4), 87. doi:10.4103/0976-0105.141942
- Jan, A., & Husain, S. (2015). Bullying in elementary schools: Its causes and effects on students. *Journal of Education and Practice*, *6*(19), 43-56.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed Methods Research: A Research Paradigm Whose Time Has Come. *Educational Researcher*, *33*(7), 14–26. doi:10.3102/0013189x033007014
- Jones, R. W. (1993). Gender-Specific Differences in the Perceived Antecedents of Academic Stress. *Psychological Reports*, *72*(3), 739–743. doi:10.2466/pr0.1993.72.3.739
- Jones, J. (1996). The Effects of Non-Response on Statistical Inference. *Journal of Health & Social Policy*, *8*(1), 49–62. doi:10.1300/j045v08n01\_05
- Juvonen, J., Nishina, A., & Graham, S. (2000). Peer harassment, psychological adjustment, and school functioning in early adolescence. *Journal of Educational Psychology*, *92*, 349-359. doi: 10.1037//0022-0663.92.2.349
- Juvonen, J., Wang, Y., & Espinoza, G. (2011). Bullying experiences and compromised academic performance across middle school grades. *The Journal of Early Adolescence*, *31*(1), 152-173. doi:10.1177/0272431610379415
- Kearney, C. (2008). School absenteeism and school refusal behavior in youth: A contemporary review. *Clinical Psychology Review*, *28*(3), 451–471. doi:10.1016/j.cpr.2007.07.012
- Kearney, C. A., & Bensaheb, A. (2006). School absenteeism and school refusal behavior: A review and suggestions for school-based health professionals. *Journal of School Health*, *76*(1), 3–7. doi:10.1111/j.1746-1561.2006.00060.x
- Kinder, K., Wakefield, A., Wilkin, A. (1996), Talking Back: Pupil Views on Disaffection, Slough: NFER.
- Klinger, D. A., Freeman, J. G., Bilz, L., Liiv, K., Ramelow, D., Sebok, S. S., ... Rasmussen, M. (2015). Cross-national trends in perceived school pressure by gender and age from 1994

- to 2010. *The European Journal of Public Health*, 25(suppl 2), 51–56.  
doi:10.1093/eurpub/ckv027
- Koch, T., & Harrington, A. (1998). Reconceptualising rigour: The case for reflexivity. *Journal of Advanced Nursing*, 28(4), 882–890.
- Kochenderfer, B. J., & Ladd, G. W. (1996). Peer victimization: Cause or consequence of school maladjustment? *Child Development*, 67(4), 1293-1305. doi:10.2307/1131701
- Kochenderfer, B.J., Ladd, G.W. (1997). Victimized children's responses to peers' aggression: Behaviors associated with reduced versus continued victimization. *Development and Psychopathology*, 9(1), 59–73. doi: 10.1017/S0954579497001065.
- Kokkinos, C. M., & Kipritsi, E. (2011). The relationship between bullying, victimization, trait emotional intelligence, self-efficacy and empathy among preadolescents. *Social Psychology of Education*, 15(1), 41–58. doi:10.1007/s11218-011-9168-9
- Kovas, Y., Haworth, C.M., Dale P.S., Plomin, R (2007). The genetic and environmental origins of learning abilities and disabilities in the early school years. *Monographs of the Society for research in Child Development*. 72(vii).1–144.
- Krygsman, A., & Vaillancourt, T. (2019). Peer victimization, aggression, and depression symptoms in preschoolers. *Early Childhood Research Quarterly*, 47, 62-73.
- Ladd, G.W., Birch, S.H. , & Buhs, E.S. (2003). Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development*, 70 (6), 1373-1400.
- Ladd, G. W., Ettekal, I., & Kochenderfer-Ladd, B. (2017). Peer victimization trajectories from kindergarten through high school: Differential pathways for children's school engagement and achievement? *Journal of Educational Psychology*, 109(6), 826–841.  
doi:10.1037/edu0000177
- Ladd, G. W., & Kochenderfer-Ladd, B. (2002). Identifying victims of peer aggression from early to middle childhood: Analysis of cross-informant data for concordance, estimation of relational adjustment, prevalence of victimization, and characteristics of identified victims. *Psychological Assessment*, 14(1), 74–96. doi:10.1037/1040-3590.14.1.74
- Laird, N. M. (1988). Missing data in longitudinal studies. *Statistics in Medicine*, 7(1-2), 305–315. doi:10.1002/sim.4780070131

- Lamdin, D. J. (1996). Evidence of student attendance as an independent variable in education production functions. *The Journal of Educational Research*, *89*(3), 155–162.  
doi:10.1080/00220671.1996.9941321
- Lee, A. S. (1991). Integrating positivist and interpretive approaches to organizational research. *Organization Science*, *2*(4), 342-365.
- Lee, M., & Larson, R. (2000). The Korean ‘examination hell’: Long hours of studying, distress, and depression. *Journal of Youth and Adolescence*, *29*, 249–271.
- Leichtman, M. D., & Ceci, S. J. (1995). The effects of stereotypes and suggestions on preschoolers’ reports. *Developmental Psychology*, *31*, 568 – 578.
- Levine, J. M., Snyder, H. N., & Mendez-Caratini, G. (1982). Task performance and interpersonal attraction in children. *Child Development*, *53*(2), 359. doi:10.2307/1128977
- Li, Q. (2006). Cyberbullying in schools: A research of gender differences. *School Psychology International*, *27*, 157-170. doi:10.1177/0143034306064547
- Li, Q., Cross, D. & Smith, P.K. (2012). Cyberbullying in the global playground: Research from international perspectives. Chichester, England: Wiley-Blackwell.
- Lindfors, P., & Tullberg, B. S. (2011). Evolutionary aspects of aggression: The importance of sexual selection. *Advances in Genetics*, *75*, 7–22. doi: 10.1016/B978-0-12-380858-5.00009-5
- Liu, J., Bullock, A., & Coplan, R. J. (2014). Predictive relations between peer victimization and academic achievement in Chinese children. *School Psychology Quarterly*, *29*(1), 89–98.  
doi:10.1037/spq0000044
- Lundy, S. M., Silva, G. E., Kaemingk, K. L., Goodwin, J. L., & Quan, S. F. (2010). Cognitive Functioning and Academic Performance in Elementary School Children with Anxious/Depressed and Withdrawn Symptoms~!2009-12-21~!2010-02-15~!2010-04-14~! The Open Pediatric Medicine Journal, *4*(1), 1–9.  
doi:10.2174/1874309901004010001
- Mahady-Wilton, M., Craig, W. M., & Pepler, D. J. (2000). Emotional regulation and display in classroom bullying: Characteristic expressions of affect, coping styles and relevant contextual factors. *Social Development*, *9*, 226-245.
- Mandy, W., Murin, M., Baykaner, O., Staunton, S., Hellriegel, J., Anderson, S., & Skuse, D. (2015). The transition from primary to secondary school in mainstream education for

- children with autism spectrum disorder. *Autism*, *20*(1), 5–13.  
doi:10.1177/1362361314562616
- Martín-Antón, L. J., Monjas, M. I., García Bacete, F. J., & Jiménez-Lagares, I. (2016). Problematic Social Situations for Peer-Rejected Students in the First Year of Elementary School. *Frontiers in Psychology*, *7*. doi:10.3389/fpsyg.2016.01925
- Mau, W.-C., & Lynn, R. (1999). Racial and ethnic differences in motivation for educational achievement in the United States. *Personality and Individual Differences*, *27*(6), 1091–1096. doi:10.1016/s0191-8869(99)00051-3
- McClanahan, M., McCoy, S. M., & Jacobsen, K. H. (2014). Forms of bullying reported by middle-school students in Latin America and the Caribbean. *Advances in School Mental Health Promotion*, *8*(1), 42–54. doi:10.1080/1754730x.2014.978118
- McDonald, M. M., Navarrete, C. D., & Van Vugt, M. (2012). Evolution and the psychology of intergroup conflict: the male warrior hypothesis. *Philosophical Transactions of the Royal Society B: Biological Sciences*, *367*(1589), 670–679. doi:10.1098/rstb.2011.0301
- McDougall, P., & Vaillancourt, T. (2015). Long-term adult outcomes of peer victimization in childhood and adolescence: Pathways to adjustment and maladjustment. *American Psychologist*, *70*(4), 300–310. doi:10.1037/a0039174
- Meyer-Adams, N., & Conner, B. T. (2008). School violence: Bullying behaviors and the psychosocial school environment in middle schools. *Children & Schools*, *30*(4), 211–221. doi:10.1093/cs/30.4.211
- Mfutso-Bengo, J., Masiye, F., Molyneux, M., Ndebele, P., & Chilungo, A. (2008). Why do people refuse to take part in biomedical research studies? Evidence from a resource-poor area. *Malawi Medical Journal*, *20*(2). doi:10.4314/mmj.v20i2.10958
- Mishna, F. (2003). Learning disabilities and bullying: Double jeopardy. *Journal of Learning Disabilities*, *36*(4), 336–347. doi: 10.1177/00222194030360040501
- Mishna, F. (2004). A qualitative study of bullying from multiple perspectives. *Children & Schools*, *26*, 234–247. doi:10.1093/ cs/26.4.234
- Monks, C. P., Smith, P. K., Naylor, P., Barter, C., Ireland, J. L., & Coyne, I. (2009). Bullying in different contexts: Commonalities, differences and the role of theory. *Aggression and Violent Behavior*, *14*(2), 146–156. doi:10.1016/j.avb.2009.01.004

- Morrissey, T. W., Hutchison, L., & Winsler, A. (2014). Family income, school attendance, and academic achievement in elementary school. *Developmental Psychology, 50*(3), 741–753. doi:10.1037/a0033848
- Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology, 38*(1), 30–38. doi:10.1037/0022-0167.38.1.30
- Munson, J.A., McMahon, R.J., Spieker, S.J (2001). Structure and variability in the developmental trajectory of children's externalizing problems: Impact of infant attachment, maternal depressive symptomatology, and child sex. *Development & Psychopathology, 13*, 277–296.
- Nabuzoka, D., & Smith, P. K. (1993). Sociometric status and social behaviour of children with and without learning difficulties. *Journal of Child Psychology and Psychiatry, 34*(8), 1435-1448.
- Nakamoto, J., & Schwartz, D. (2010). Is peer victimization associated with academic achievement? A meta-analytic review. *Social Development, 19*(2), 221–242. doi:10.1111/j.1467-9507.2009.00539.x
- Nelson, H. J., Kendall, G. E., Burns, S., & Schonert-Reichl, K. (2015). Protocol for the design of an instrument to measure preadolescent children's self-report of covert aggression and bullying. *BMJ Open, 5*(11). doi:10.1136/bmjopen-2015-009084
- Nishina, A., Juvonen, J., & Witkow, M. R. (2005). Sticks and stones may break my bones, but names will make me feel sick: The psychosocial, somatic, and scholastic consequences of peer harassment. *Journal of Clinical Child and Adolescent Psychology, 34*, 37–48.
- Nowicki, E. A. (2003). A meta-analysis of the social competence of children with learning disabilities compared to classmates of low and average to high achievement. *Learning Disability Quarterly, 26*(3), 171–188. doi:10.2307/1593650
- Nylund, K., Nishina, A., Bellmore, A., & Graham, S. (2007). Subtypes, severity, and structural stability of peer victimization: What does latent class analysis say? *Child Development, 78*, 1706–1722.
- O'Connell, P., Pepler, D., & Craig, W. (1999). Peer involvement in bullying: insights and challenges for intervention. *Journal of Adolescence, 22*(4), 437–452. doi:10.1006/jado.1999.0238

- O'Connor, E. E., Dearing, E., & Collins, B. A. (2011). Teacher-child relationship and behavior problem trajectories in elementary school. *American Educational Research Journal*, *48*(1), 120–162. doi:10.3102/0002831210365008
- OECD (2003). Student engagement at school: A sense of belonging and participation. Retrieved from <http://www.oecd.org/education/school/programmeforinternationalstudentassessmentpisa/33689437.pdf>
- Oldenburg, B., Barrera, D., Olthof, T., Goossens, F., van der Meulen, M., Vermande, M., ... Veenstra, R. (2015). Peer and self-reported victimization: Do non-victimized students give victimization nominations to classmates who are self-reported victims? *Journal of School Psychology*, *53*(4), 309–321. doi:10.1016/j.jsp.2015.05.003
- O'Leary, Z. (2014). *The essential guide to doing your research project* (2<sup>nd</sup> ed.). Thousand Oaks, CA: SAGE Publications Inc.
- Olsen, L. (2014). Why September Matters: Improving student attendance. Policy Brief. Baltimore Education Research Consortium, 2pp.
- Olweus, D. (1987). Bully/victim problems among schoolchildren in Scandinavia. In J. P. Myklebust & R. Ommundsen (Eds.), *Psykologprofesjonen mot år 2000: Helsepsykologi, samfunnspsykologi og internasjonale perspektiver: Minneskrift til Bjørn Christiansen* (pp. 395-413). Oslo, Norway: Universitetsforlaget AS.
- Olweus, D. (1993). *Bullying at school: What we know and what we can do*. NY: Blackwell.
- Park, S., Lee, Y., Jang, H., & Jo, M. (2017). Violence victimization in Korean adolescents: Risk factors and psychological problems. *International Journal of Environmental Research and Public Health*, *14*(6), 541. doi:10.3390/ijerph14050541
- Patton, D. U., Hong, J. S., Patel, S., & Kral, M. J. (2016). A systematic review of research strategies used in qualitative studies on school bullying and victimization. *Trauma, Violence, & Abuse*, *18*(1), 3–16. doi:10.1177/1524838015588502
- Patton, D. U., Woolley, M. E., & Hong, J. S. (2012). Exposure to violence, student fear, and low academic achievement: African American males in the critical transition to high school. *Children and Youth Services Review*, *34*(2), 388–395. doi:10.1016/j.chilyouth.2011.11.009

- Peacock, M. (2001). Match or mismatch? Learning styles and teaching styles in EFL. *International Journal of Applied Linguistics*, *11*(1), 1–20. doi:10.1111/1473-4192.00001
- Peterson, J. S., & Colangelo, N. (1996). Gifted achievers and underachievers: A comparison of patterns found in school files. *Journal of Counseling & Development*, *74*(4), 399–407. doi:10.1002/j.1556-6676.1996.tb01886.x
- Peyton, R. P., Ranasinghe, S., & Jacobsen, K. H. (2017). Injuries, violence, and bullying among middle school students in Oman. *Oman Medical Journal*, *32*(2), 98–105. doi:10.5001/omj.2017.19
- Plomin, R., & Deary, I. J. (2014). Genetics and intelligence differences: five special findings. *Molecular Psychiatry*, *20*(1), 98–108. doi:10.1038/mp.2014.105
- Politis, S., Bellou, V., Belbasis, L., & Skapinakis, P. (2014). The association between bullying-related behaviours and subjective health complaints in late adolescence: cross-sectional study in Greece. *BMC Research Notes*, *7*(1), 523. doi:10.1186/1756-0500-7-523
- Pouwels, J. L., Souren, P. M., Lansu, T. A. M., & Cillessen, A. H. N. (2016). Stability of peer victimization: A meta-analysis of longitudinal research. *Developmental Review*, *40*, 1–24. doi:10.1016/j.dr.2016.01.001
- Railsback, J. (2004). Increasing student attendance: Strategies from research and practice. Portland, OR: Northwest Regional Educational Laboratory. Retrieved from <http://search.proquest.com/docview/62116746?accountid=27700>
- Ready, D. D. (2010). Socioeconomic disadvantage, school attendance, and early cognitive development. *Sociology of Education*, *83*(4), 271–286. doi:10.1177/0038040710383520
- Reid, K. (1983). Retrospection and persistent school absenteeism. *Educational Research*, *25*(2), 110-115. doi:10.1080/0013188830250204
- Rigby, K. (2003). Consequences of bullying in schools. *The Canadian Journal of Psychiatry*, *48*(9).
- Rimfeld, K., Malanchini, M., Krapohl, E., Hannigan, L. J., Dale, P. S., & Plomin, R. (2018). The stability of educational achievement across school years is largely explained by genetic factors. *Npj Science of Learning*, *3*(1). doi:10.1038/s41539-018-0030-0
- Ripski, M. B., & Gregory, A. (2009). Unfair, Unsafe, and Unwelcome: Do High School Students Perceptions of Unfairness, Hostility, and Victimization in School Predict Engagement

- and Achievement? *Journal of School Violence*, 8(4), 355-375.  
doi:10.1080/15388220903132755
- Risser, S. D. (2013). Relational aggression and academic performance in elementary school. *Psychology in the Schools*, 50(1), 13-26. doi:10.1002/pits.21655
- Rivers, I., & Smith, P. K. (1994). Types of bullying behaviour and their correlates. *Aggressive Behavior*, 20(5), 359-368. doi:10.1002/1098-2337(1994)20:5<359::aid-ab2480200503>3.0.co;2-j
- Roby, D.E. (2004). Research on school attendance and student achievement: A study of Ohio schools. *Educational Research Quarterly*, 28, 3-14.
- Romero, M. & Lee, Y. (2007). A National Portrait of Chronic Absenteeism in the Early Grades. New York: National Center for Children in Poverty.
- Rothon, C., Head, J., Klineberg, E., & Stansfeld, S. (2011). Can social support protect bullied adolescents from adverse outcomes? A prospective study on the effects of bullying on the educational achievement and mental health of adolescents at secondary schools in East London. *Journal of Adolescence*, 34(3), 579–588. doi:10.1016/j.adolescence.2010.02.007
- Rubin, L. B. (1985). Just friends: The role of friendship in our lives. New York: Harper & Row.
- Rueger, S. Y., & Jenkins, L. N. (2014). Effects of peer victimization on psychological and academic adjustment in early adolescence. *School Psychology Quarterly*, 29(1), 77–88. doi:10.1037/spq0000036
- Rueger, S. Y., Malecki, C. K., & Demaray, M. K. (2010). Relationship between multiple sources of perceived social support and psychological and academic adjustment in early adolescence: Comparisons across gender. *Journal of Youth and Adolescence*, 39(1), 47-61. doi:10.1007/s10964-008-9368-6
- Ryan, A. B. (2006). Post-positivist approaches to research. In M. Antonesa, H. Fallon, A. B. Ryan, A. Ryan, & T. Walsh, with L. Borys, *Researching and writing your thesis: A guide for postgraduate students* (pp. 12–28). Maynooth, Ireland: MACE, National University of Ireland.
- Rys, G. S., & Bear, G. G. (1997). Relational aggression and peer relations: Gender and developmental issues. *Merrill-Palmer Quarterly*, 43(1), 87-106.

- Saint-George, Z. & Vaillancourt, T. (2019; in press). The temporal sequence of depressive symptoms, peer victimization, and self-esteem across adolescence: Evidence for an integrated self-perception driven model. *Development and Psychopathology*.
- Salmivalli, C. (2010). Bullying and the peer group: A review. *Aggression and Violent Behavior, 15*(2), 112–120. doi:10.1016/j.avb.2009.08.007
- Satorra, A., & Bentler, P. M. (1994). Corrections to test statistics and standard errors in covariance structure analysis. In A. von Eye & C. C. Clogg(Eds.), *Latent variables analysis: Applications for developmental research* (pp. 399–419). Thousand Oaks, CA: Sage.
- Savage, R. S. (2005). Friendship and bullying patterns in children attending a language base in a mainstream school. *Educational Psychology in Practice, 21*(1), 23-36.
- Scheithauer, H., Hayer, T., Petermann, F., & Jugert, G. (2006). Physical, verbal, and relational forms of bullying among German students: Age trends, gender differences, and correlates. *Aggressive Behavior, 32*(3), 261-275. doi:10.1002/ab.20128
- Scholte, R. H. J., Engels, R. C. M. E., Overbeek, G., de Kemp, R. A. T., & Haselager, G. J. T. (2007). Stability in Bullying and Victimization and its Association with Social Adjustment in Childhood and Adolescence. *Journal of Abnormal Child Psychology, 35*(2), 217–228. doi:10.1007/s10802-006-9074-3
- Schwartz, D., Farver, J. M., Chang, L., & Lee-Shin, Y. (2002). Victimization in South Korean children's peer groups. *Journal of Abnormal Child Psychology, 30*(113). doi:10.1023/A:1014749131245
- Schwartz, D., Gorman, A. H., Nakamoto, J., & Toblin, R. L. (2005). Victimization in the Peer Group and Children's Academic Functioning. *Journal of Educational Psychology, 97*(3), 425-435.
- Singer, E. (2005). The strategies adopted by Dutch children with dyslexia to maintain their self-esteem when teased at school. *Journal of Learning Disabilities, 38*(5), 411–423. doi:10.1177/00222194050380050401
- Seilström, E., & Bremberg, S. (2006). Is there a “school effect” on pupil outcomes? A review of multilevel studies. *Journal of Epidemiology & Community Health, 60*(2), 149–155. doi:10.1136/jech.2005.036707

- Sharp, S. (1995). How much does bullying hurt? The effects of bullying on the personal well-being and educational progress of secondary-aged students. *Educational and Child Psychology, 12*, 81–88.
- Shlafer, R. J., & Poehlmann, J. (2010). Attachment and caregiving relationships in families affected by parental incarceration. *Attachment & Human Development, 12*(4), 395-415. doi:10.1080/14616730903417052
- Skinner, E. A., & Pitzer, J. R. (2012). Developmental Dynamics of Student Engagement, Coping, and Everyday Resilience. *Handbook of Research on Student Engagement, 21–44*. doi:10.1007/978-1-4614-2018-7\_2
- Smith, P. K., Talamelli, L., Cowie, H., Naylor, P., & Chauhan, P. (2004). Profiles of non-victims, escaped victims, continuing victims and new victims of school bullying. *British Journal of Educational Psychology, 74*(4), 565–581. doi:10.1348/0007099042376427
- Smith-Woolley, E., Ayorech, Z., Dale, P. S., von Stumm, S., & Plomin, R. (2018). The genetics of university success. *Scientific Reports, 8*(1). doi:10.1038/s41598-018-32621-w
- Sousa, V. D., Driessnack, M., & Mendes, I. A. C. (2007). An overview of research designs relevant to nursing: Part 1: quantitative research designs. *Revista Latino-Americana de Enfermagem, 15*(3), 502–507. doi:10.1590/s0104-11692007000300022
- Srabstein, J. C., McCarter, R. J., Shao, C., & Huang, Z. J. (2006). Morbidities associated with bullying behaviors in adolescents. School based study of American adolescents. *International Journal of Adolescent Medicine and Health, 18*(4). doi:10.1515/ijamh.2006.18.4.587
- Statistics Canada (2016). Women and Education: Qualifications, Skills, and Technology.
- Steiner, R. J., & Rasberry, C. N. (2015). Brief report: Associations between in-person and electronic bullying victimization and missing school because of safety concerns among U.S. high school students. *Journal of Adolescence, 43*, 1-4. doi:10.1016/j.adolescence.2015.05.00
- Steward, R. J., Steward, A., Blair, J., Jo, H., & Hill, M. F. (2008). School attendance revisited. *Urban Education, 43*(5), 519–536. doi:10.1177/0042085907311807
- Storch, E. A., & Masia-Warner, C. (2004). The relationship of peer victimization to social anxiety and loneliness in adolescent females. *Journal of Adolescence, 27*(3), 351-362. doi: 10.1016/j.adolescence.2004.03.003

- Storch, E. A., Brassard, M. R., & Masia-Warner, C. L. (2003). The relationship of peer victimization to social anxiety and loneliness in adolescence. *Child Study Journal, 33*(1), 1-18.
- Strøm, I. F., Thoresen, S., Wentzel-Larsen, T., & Dyb, G. (2013). Violence, bullying and academic achievement: A study of 15-year-old adolescents and their school environment. *Child Abuse & Neglect, 37*(4), 243-251. doi:10.1016/j.chiabu.2012.10.010
- Stubbs-Richardson, M., Sinclair, H. C., Goldberg, R. M., Ellithorpe, C. N., & Amadi, S. C. (2017). Reaching Out versus Lashing Out: Examining Gender Differences in Experiences with and Responses to Bullying in High School. *American Journal of Criminal Justice, 43*(1), 39–66. doi:10.1007/s12103-017-9408-4
- Swearer, S. M., & Doll, B. (2001). Bullying in Schools: An ecological framework. *Journal of Emotional Abuse, 2*(2-3), 7–23. doi:10.1300/j135v02n02\_02
- Thijs, J. T., & Verkuyten, M. (2008). Peer victimization and academic achievement in a multiethnic sample: The role of perceived academic self-efficacy. *Journal of Educational Psychology, 100*(4), 754. doi: 10.1037/a0013155
- Thornberg, R. (2011). “She”s Weird!’ - The social construction of bullying in school: A review of qualitative research. *Children & Society, 25*(4), 258–267. doi:10.1111/j.1099 0860.2011.00374.x
- Tippett, N., & Wolke, D. (2014). Socioeconomic Status and Bullying: A Meta-Analysis. *American Journal of Public Health, 104*(6), e48–e59. doi:10.2105/ajph.2014.301960
- Thompson, L. A., Detterman, D. K., & Plomin, R. (1991). Associations between Cognitive Abilities and Scholastic Achievement: Genetic Overlap but Environmental Differences. *Psychological Science, 2*(3), 158–165. doi:10.1111/j.1467-9280.1991.tb00124.x
- Townsend, L., Flisher, A. J., Chikobvu, P., Lombard, C., & King, G. (2008). The relationship between bullying behaviours and high school dropout in Cape Town, South Africa. *South African Journal of Psychology, 38*(1), 21–32. doi:10.1177/008124630803800102
- Tremblay, R. E. (2010). Developmental origins of disruptive behaviour problems: The “original sin” hypothesis, epigenetics and their consequences for prevention. *Journal of Child Psychology and Psychiatry, 51*(4), 341–367. doi:10.1111/j.1469-7610.2010.02211.x
- Underwood, M.K. (2007). Introduction to the special issue gender and children’s friendships: do girls’ and boys’ friendships constitute different peer cultures, and what are the trade-

- offs for development? *Merrill-Palmer Quarterly*, 53 (3), Available at:  
<https://digitalcommons.wayne.edu/mpq/vol53/iss3/2>
- UNESCO (2017). School violence and bullying: Global status report. Online at  
<http://unesdoc.unesco.org/images/0024/002469/246970e.pdf>
- UNICEF (2017). New UNICEF report: Poor health, violence at alarming rates among Canada's kids. Retrieved from <https://www.unicef.ca/en/press-release/new-unicef-report-poor-health-violence-alarming-rates-among-canadas-kids>
- UDHR (1948). Universal Declaration of Human Rights. Retrieved from  
[http://www.ohchr.org/EN/UDHR/Documents/UDHR\\_Translations/eng.pdf](http://www.ohchr.org/EN/UDHR/Documents/UDHR_Translations/eng.pdf)
- Vaillancourt, T. (2005). Indirect aggression among humans: Social construct or evolutionary adaptation? In R. E. Tremblay, W. W. Hartup & J. Archer (Eds.), *Developmental origins of aggression* (pp. 158–177). New York: Guilford.
- Vaillancourt, T. (2013). Do human females use indirect aggression as an intrasexual competition strategy? *Philosophical Transactions of the Royal Society B: Biological Sciences*, 368(1631), 20130080–20130080. doi:10.1098/rstb.2013.0080
- Vaillancourt, T., Brittain, H., Bennett, L., Arnocky, S., McDougall, P., Hymel, S., ... Cunningham, L. (2010b). Places to Avoid: Population-Based Study of Student Reports of Unsafe and High Bullying Areas at School. *Canadian Journal of School Psychology*, 25(1), 40–54. doi:10.1177/0829573509358686
- Vaillancourt, T., Brittain, H. L., McDougall, P., & Duku, E. (2013). Longitudinal Links Between Childhood Peer Victimization, Internalizing and Externalizing Problems, and Academic Functioning: Developmental Cascades. *Journal of Abnormal Child Psychology*, 41(8), 1203–1215. doi:10.1007/s10802-013-9781-5
- Vaillancourt, T., McDougall, P., Hymel, S., Krygsman, A., Miller, J., Stiver, K., & Davis, C. (2008). Bullying: Are researchers and children/youth talking about the same thing? *International Journal of Behavioral Development*, 32, 486–495. doi:10.1177/0165025408095553
- Vaillancourt, T., Miller, J. L., Fagbemi, J., Côté, S., & Tremblay, R. E. (2007). Trajectories and predictors of indirect aggression: results from a nationally representative longitudinal study of Canadian children aged 2–10. *Aggressive Behavior*, 33(4), 314–326. doi:10.1002/ab.20202

- Vaillancourt, T., Trinh, V., McDougall, P., Duku, E., Cunningham, L., Cunningham, C., ... Short, K. (2010a). Optimizing population screening of bullying in school-aged children. *Journal of School Violence, 9*(3), 233–250. doi:10.1080/15388220.2010.483182
- Van der Stede, W. A., Young, S. M., & Chen, C. X. (2005). Assessing the quality of evidence in empirical management accounting research: The case of survey studies. *Accounting, Organizations and Society, 30*(7-8), 655–684. doi:10.1016/j.aos.2005.01.003
- Van der Werf, C. (2014). The effects of bullying on academic achievement. *Development and Society, (74)*, 275-308. doi: 10.13043/DYS.74.6
- Van Geel, M., Goemans, A., Zwaanswijk, W., Gini, G., & Vedder, P. (2018). Does peer victimization predict low self-esteem, or does low self-esteem predict peer victimization? Meta-analyses on longitudinal studies. *Developmental Review, 49*, 31–40. doi:10.1016/j.dr.2018.07.001
- Vars, F. E., & Bowen, W. G. (1998). Scholastic Aptitude Test scores, race, and academic performance in selective colleges and universities. In C. Jencks & M. Phillips (Eds.), *The Black–White test score gap* (pp. 457-479). Washington, DC, US: Brookings Institution Press.
- Verkuyten, M., & Thijs, J. (2002). School satisfaction of elementary school children: The role of performance, peer relations, ethnicity and gender. *Social Indicators Research, 59*(2), 203.
- Vervoort, M. H. M., Scholte, R. H. J., & Overbeek, G. (2010). Bullying and Victimization Among Adolescents: The Role of Ethnicity and Ethnic Composition of School Class. *Journal of Youth and Adolescence, 39*(1), 1–11. doi:10.1007/s10964-008-9355-y
- Vidourek, R. A., King, K. A., & Merianos, A. L. (2016). School bullying and student trauma: Fear and avoidance associated with victimization. *Journal of Prevention & Intervention in the Community, 44*(2), 121–129. doi:10.1080/10852352.2016.1132869
- Vitoroulis, I., & Vaillancourt, T. (2015). Meta-analytic results of ethnic group differences in peer victimization. *Aggressive Behavior, 41*(2), 149–170. doi:10.1002/ab.21564
- Volk, A. A., Camilleri, J. A., Dane, A. V., & Marini, Z. A. (2012). Is adolescent bullying an evolutionary adaptation? *Aggressive Behavior, 38*(3), 222–238. doi:10.1002/ab.21418
- Walker, A., & Nabuzoka, D. (2007). Academic achievement and social functioning of children with and without learning difficulties. *Educational Psychology, 27*(5), 635-654. doi:10.1080/01443410701309175

- Wang, J., Iannotti, R. J., Luk, J. W., & Nansel, T. R. (2010). Co-occurrence of victimization from five subtypes of bullying: Physical, verbal, social exclusion, spreading rumors, and cyber. *Journal of Pediatric Psychology, 35*, 1103–1112. doi:10.1093/jpepsy/jsq048
- Wang, W., Vaillancourt, T., Brittain, H., McDougall, P., Krygsmann, A., Smith, D., ... Hymel, S. (2014). School climate, peer victimization, and academic achievement: Results from a multi-informant study. *School Psychology Quarterly, 29* (3), 360-377. doi:10.1037/e574242014-057
- Whitley, J., Lupart, J. L., & Beran, T. (2007). Differences in Achievement between Adolescents Who Remain in a K-8 School and Those Who Transition to a Junior High School. *Canadian Journal of Education / Revue Canadienne de L'éducation, 30*(3), 649. doi:10.2307/20466657
- Whitney, C. R., & Liu, J. (2017). What We're Missing. *AERA Open, 3*(2), 233285841770366. doi:10.1177/2332858417703660
- Wiener, J. (2004). Do Peer Relationships Foster Behavioral Adjustment in Children with Learning Disabilities? *Learning Disability Quarterly, 27*(1), 21–30. doi:10.2307/1593629
- Willard, N. (2004). An educator's guide to cyberbullying and cyberthreats. Retrieved from <https://education.ohio.gov/getattachment/Topics/Other-Resources/School-Safety/Safe-and-Supportive-Learning/Anti-Harassment-Intimidation-and-Bullying-Resource/Educator-s-Guide-Cyber-Safety.pdf.aspx>
- Wolke, D., Waylen, A., Samara, M., Steer, C., Goodman, R., Ford, T., & Lamberts, K. (2009). Selective drop-out in longitudinal studies and non-biased prediction of behaviour disorders. *British Journal of Psychiatry, 195*(3), 249–256. doi:10.1192/bjp.bp.108.053751
- Wolke, D., & Lereya, S. T. (2015). Long-term effects of bullying. *Archives of Disease in Childhood, 100*(9), 879-885. doi:10.1136/archdischild-2014-306667
- Wolke, D., Woods, S., Bloomfield, L., & Karstadt, L. (2001). Bullying involvement in primary school and common health problems. *Archives of Disease in Childhood, 85*(3), 197–201. doi:10.1136/adc.85.3.197
- Woods, S., & Wolke, D. (2004). Direct and relational bullying among primary school children and academic achievement. *Journal of School Psychology, 42*(2), 135-155. doi:10.1016/j.jsp.2003.12.002

Wright, P. H. (1982). Men's friendships, women's friendships and the alleged inferiority of the latter. *Sex Roles*. 8 (1). 20.

Zimmer-Gembeck, M. J., Geiger, T. C., & Crick, N. R. (2005). Relational and physical aggression, prosocial behavior, and peer relations. *The Journal of Early Adolescence*, 25(4), 421–452. doi:10.1177/0272431605279841

Zitzmann, N.A. (2005). Peer relations and academic achievement in early elementary school. *LSU Master's Theses*. 2893. [https://digitalcommons.lsu.edu/gradschool\\_theses/2893](https://digitalcommons.lsu.edu/gradschool_theses/2893)

Table 1

Descriptive statistics for girls and boys

<b>Table 1. Descriptive Statistics</b>								
<b>Grade</b>	<b>No. of Participants</b>	<b>Score Range</b>		<b>Girls</b>		<b>Boys</b>		<b>t-Test</b>
				<b>M</b>	<b>SD</b>	<b>M</b>	<b>SD</b>	
<b>Peer Victimization</b>								
<b>Grade 5</b>	608	0	20	4.52	3.82	3.83	3.75	27.31**
<b>Grade 6</b>	586	0	20	3.43	3.41	3.17	3.48	23.26**
<b>Grade 7</b>	543	0	20	3.31	3.42	2.43	2.94	20.95**
<b>Grade 8</b>	501	0	20	3.19	3.18	2.50	3.11	20.42**
<b>Grade 9</b>	483	0	20	2.38	2.51	1.65	2.27	18.60**
<b>Grade 10</b>	447	0	20	2.34	2.78	1.58	2.48	15.88**
<b>Grade 11</b>	432	0	20	1.84	2.53	1.04	1.63	14.00**
<b>Grade12</b>	444	0	20	1.72	2.25	1.15	2.07	14.16**
<b>School Absences</b>								
<b>Grade 5</b>	614	0	∞	7.65	7.56	6.54	5.67	26.10**
<b>Grade 6</b>	636	0	∞	7.94	7.05	7.39	8.15	25.57**
<b>Grade 7</b>	610	0	∞	9.90	8.76	8.92	8.03	27.66**
<b>Grade 8</b>	580	0	∞	11.61	11.55	9.72	10.23	23.54**
<b>Grade 9</b>	544	0	∞	16.16	15.42	13.79	14.79	23.20**
<b>Grade 10</b>	505	0	∞	14.50	14.38	12.02	12.81	21.88**
<b>Grade 11</b>	405	0	∞	24.47	19.81	21.35	21.98	22.24**
<b>Grade12</b>	452	0	∞	27.65	24.34	25.17	22.53	23.96**
<b>Academic Achievement</b>								
<b>Grade 5</b>	630	0	12	8.35	1.51	7.85	1.61	129.32**
<b>Grade 6</b>	635	0	12	8.60	1.44	7.96	1.49	139.52**
<b>Grade 7</b>	612	0	12	8.63	1.81	7.70	1.92	105.84**
<b>Grade 8</b>	575	0	12	8.94	2.02	8.07	2.19	95.75**
<b>Grade 9</b>	544	0	12	9.25	2.34	8.22	2.52	82.93**
<b>Grade 10</b>	510	0	12	9.04	2.69	8.11	2.74	70.69**
<b>Grade 11</b>	477	0	12	8.56	2.81	7.83	2.95	62.22**
<b>Grade12</b>	453	0	12	9.10	2.71	7.96	2.94	63.74**

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

Table 2

Zero-order correlations between study variables

Table 2: Correlations Between Study Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
<b>Peer Victimization</b>																									
1 VICGr5	-																								
2 VICGr6	.522**	-																							
3 VICGr7	.395**	.572**	-																						
4 VICGr8	.313**	.394**	.557**	-																					
5 VICGr9	.314**	.285**	.357**	.467**	-																				
6 VICGr10	.384**	.286**	.370**	.448**	.530**	-																			
7 VICGr11	.304**	.243**	.350**	.448**	.540**	.579**	-																		
8 VICGr12	.230**	.187**	.232**	.246**	.330**	.491**	.514**	-																	
<b>School Absences</b>																									
9 ABSGr5	.109**	.145**	.134**	.159**	.022	.096	.124*	.052	-																
10 ABSGr6	.061	.181**	.209**	.145**	.051	.109*	.055	.036	.563**	-															
11 ABSGr7	.119**	.134**	.101*	.080	.018	.064	.097	.015	.476**	.476**	-														
12 ABSGr8	.052	.231**	.153**	.172**	-.013	.004	-.002	.018	.432**	.630**	.584**	-													
13 ABSGr9	.158**	.120**	.125**	.118*	.124**	.192**	.119*	.153**	.273**	.303**	.466**	.466**	-												
14 ABSGr10	.188**	.166**	.137**	.119*	.097*	.138**	.104*	.050	.254**	.362**	.401**	.448**	.758**	-											
15 ABSGr11	.147**	.140**	.134*	.157**	.103	.193**	.098	.082	.214**	.302**	.303**	.374**	.549**	.662**	-										
16 ABSGr12	.129**	.083	.009	.076	.063	.068	.118*	.139**	.176**	.159**	.255**	.342**	.469**	.543**	.661**	-									
<b>Academic Achievement</b>																									
17 ACHGr5	-.217**	-.133**	-.084	-.109*	-.032	-.108*	-.024	-.015	-.122**	-.165**	-.140**	-.158**	-.249**	-.285**	-.320**	-.228**	-								
18 ACHGr6	-.231**	-.184**	-.127**	-.110*	-.043	-.083	-.025	-.002	-.120**	-.204**	-.134**	-.155**	-.210**	-.260**	-.301**	-.208**	.821**	-							
19 ACHGr7	-.149**	-.141**	-.092*	-.099*	-.031	-.077	.007	-.032	-.141**	-.232**	-.186**	-.196**	-.277**	-.288**	-.352**	-.251**	.765**	.827**	-						
20 ACHGr8	-.172**	-.189**	-.144**	-.129**	-.042	-.126*	-.027	.045	-.119**	-.250**	-.230**	-.314**	-.302**	-.355**	-.381**	-.323**	.717**	.789**	.868**	-					
21 ACHGr9	-.199**	-.167**	-.109*	-.108*	-.071	-.205**	-.074	-.103*	-.109*	-.159**	-.239**	-.245**	-.536**	-.472**	-.496**	-.417**	.649**	.656**	.706**	.762**	-				
22 ACHGr10	-.216**	-.203**	-.129**	-.136**	-.087	-.153**	-.025	-.089	-.108*	-.175**	-.246**	-.219**	-.507**	-.578**	-.547**	-.453**	.653**	.629**	.695**	.731**	.873**	-			
23 ACHGr11	-.251**	-.211**	-.124*	-.176**	-.054	-.118*	-.054	-.067	-.126**	-.191**	-.191**	-.233**	-.400**	-.459**	-.571**	-.507**	.622**	.597**	.639**	.679**	.805**	.818**	-		
24 ACHGr12	-.158**	-.112*	-.075	-.101*	-.001	-.094	-.034	-.079	-.122*	-.084	-.177**	-.151**	-.363**	-.365**	-.486**	-.528**	.531**	.513**	.554**	.597**	.727**	.749**	.820**	-	

Note. VIC= Peer victimization, ABS= school absenteeism, ACH=Academic achievement

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

Table 3

## Model Fit Statistics

<b>Table 3. Models Fit Statistics</b>							
<b>Model</b>	<b>X<sup>2</sup></b>	<b>df</b>	<b>CFI</b>	<b>RMSEA (90% CI)</b>	<b>SRMR</b>	<b>AIC</b>	
1. Covariance only	4779.910	252	0.136	0.166 (0.162- 0.170)	0.323	72178.150	
2. covariance and stability	938.248	231	0.864	0.068 (0.064-0.073)	0.150	65571.562	
3. Covariance, one-year stability path, and two-year stability path	458.330	213	0.953	0.042(0.037-0.047)	0.118	64969.628	
4. Covariance, one-and two-year stability, and cross-lags	280.300	171	0.979	0.031 (0.025-0.038)	0.039	64832.612	
5. Multi-group analysis, paths unconstrained across sex	528.727	342	0.970	0.041(0.034-0.048)	0.045	64568.899	
6. Multi-group analysis, paths constrained across sex	780.242	447	0.947	0.048 (0.042-0.053)	0.081	64684.020	
7. Covariance, stability, and cross lags, controlling for covariates	318.076	225	0.984	0.025 (0.018-0.031)	0.040	69740.294	

*Note.* X<sup>2</sup>, chi-square; *df*, degrees of freedom; CFI, comparative fit index; RMSEA, root mean square error of approximation; SRMR, standardized root mean square residual; AIC, akaike information criterion.

\* Control variables were race/ethnicity, household income, and parental education

Table 4

Results of Satorra-Bentler scaled chi square differences test.

<b>Table 4. Satorra-Bentler Scaled Chi Square test</b>					
<b>Model Comparison</b>	CD	$\Delta\chi^2$	TRd	$\Delta df$	<i>p</i> -value
1 vs 2	5.6414	3841.662	1178.4996	21	<i>p</i> <0.001
2 vs3	1.9101	479.92	333.9647	18	<i>p</i> <0.001
3 vs 4	1.2680	178.03	174.3137	42	<i>p</i> <0.001
5 vs. 6	1.3761	251.515	236.2524	105	<i>p</i> <0.001

*Note.* CD, difference test scaling correction; TRd, Sattora-Bentler scaled chi-square difference;

$\Delta df$ , Difference is Degrees of Freedom; *p*-value for TRd,  $\Delta df$

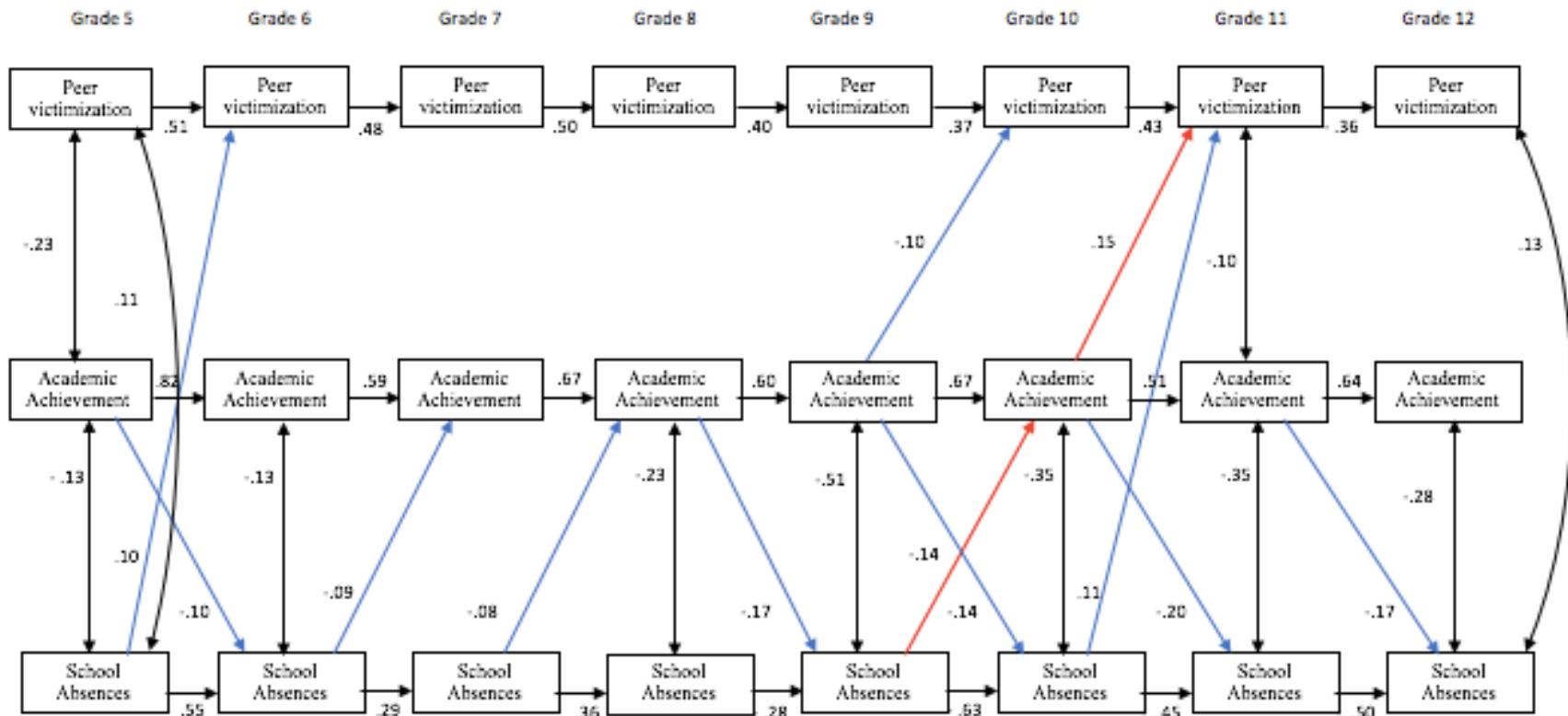


Figure 1. Cascade model of the association between peer victimization, academic achievement, and school absenteeism for the full sample. Values represent within-time and cross-lagged paths that were statistically significant. The nonsignificant paths were removed from the final model for ease of interpretation.

- Within-time paths
- Cross-lagged paths
- Mediator Pathway

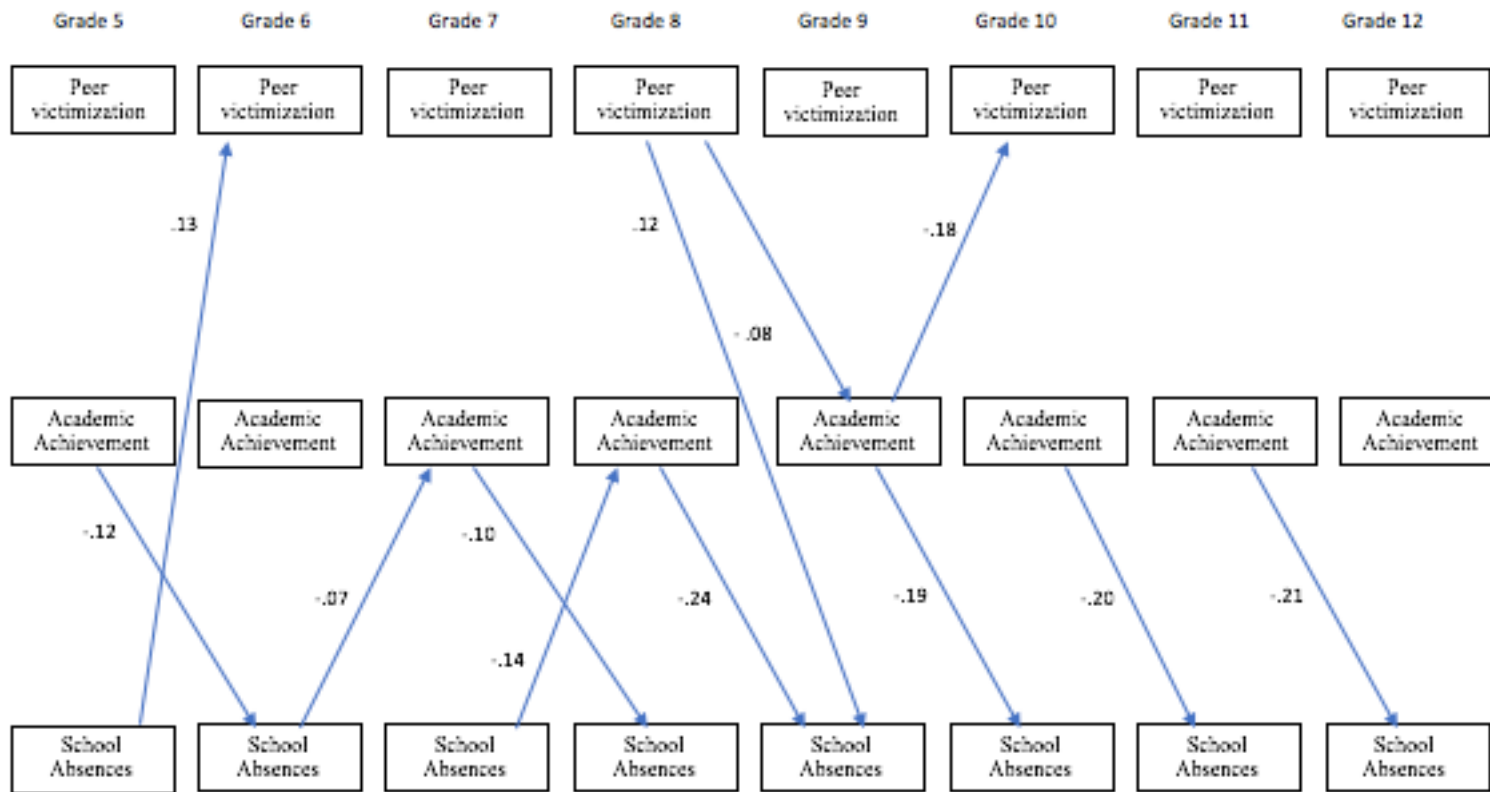


Figure 2. Cascade model of the association between peer victimization, academic achievement, and school absenteeism for girls. Values represent cross-lagged paths that were statistically significant. The nonsignificant paths were removed from the final model for ease of interpretation.

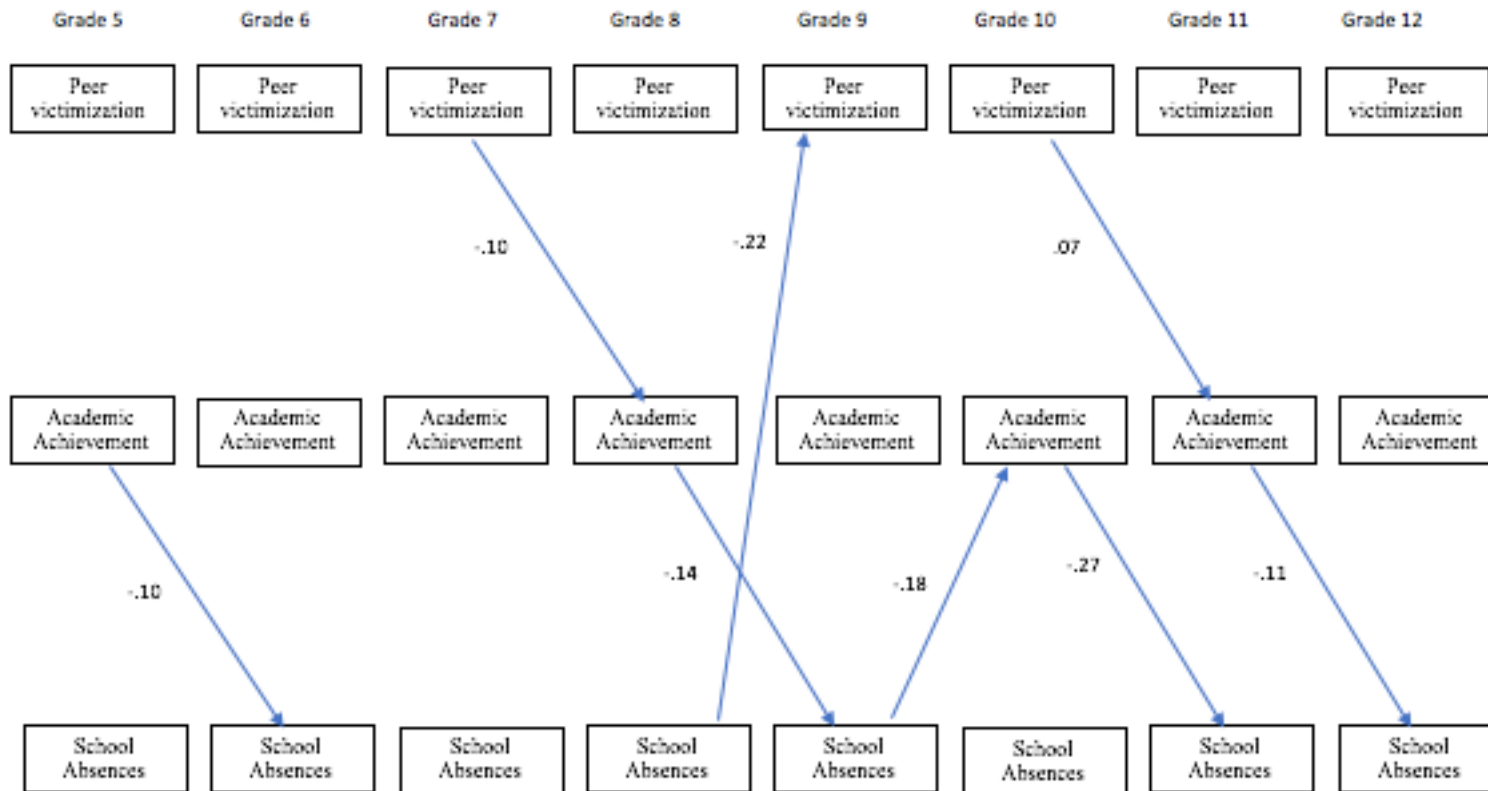


Figure 3. Cascade model of the association between peer victimization, academic achievement, and school absenteeism for boys. Values represent cross-lagged paths that were statistically significant. The nonsignificant paths were removed from the final model for ease of interpretation.