

VICTIMIZATION, SOCIAL SUPPORT, AND WELL-BEING IN MIDDLE CHILDHOOD:  
A POPULATION LEVEL ANALYSIS

by  
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## **Abstract**

Peer victimization in schools has been shown to have pervasive and enduring harmful effects on the well-being and psychological adjustment of children. Elucidating protective factors that may buffer children against the harmful effects of victimization is an important area of research. Social support, from peers or from adults such as parents or teachers, has been identified as one potential mitigating factor against detrimental developmental outcomes for victimized children. The present research explored the relationships among victimization, social support from peers and adults, and well-being outcomes in two age groups in middle childhood. Specifically, this study aimed to answer the question: Do victimized and non-victimized, grade 4 and grade 7 students differ in satisfaction with life, sadness and/or worries as a function of the availability of peer and adult support, and do these relationships vary by sex?

A sample of over 36,000 grade 4 students and over 21,000 grade 7 students completed a self-report survey assessing their experience with victimization, available support from both peers and adults, their feelings of sadness and worries and their satisfaction with life. From these samples, a subsample of students were identified who were highly victimized or not victimized and who reported having high or low peer and adult support. Univariate analyses of variance were then conducted to explore the moderating direct and interacting role of social support and sex in the relationship between victimization and reported satisfaction with life, sadness, and worries. Replicating previous findings, the present study found that both higher adult support and higher peer support were associated with more positive well-being outcomes, and that victimization was associated with negative well-being outcomes. Main effects of peer support existed nearly universally for each outcome of satisfaction with life, sadness, and worries, at both grade 4 and grade 7, though the main effect of

adult support was present only for life satisfaction and sadness. The hypothesized moderation of victimization and well-being outcomes by adult and peer support was not found. These results present the additive associations of peer support and adult support with the well-being outcomes for both non-victimized and victimized schoolchildren at middle childhood.

## **Lay Summary**

Peer victimization in schools has been shown to have enduring harmful effects on the well-being and psychological adjustment of children. Research currently suggests that contextual factors, such as the presence of support from adults or peers around them, may lessen the negative impact of victimization on children. The present study aimed to determine whether adult support and peer support specifically can lessen the negative impact of victimization for students in middle childhood, and how that may differ across grades 4 and 7 and across boys and girls. The findings showed that adult support and peer support were both associated with positive satisfaction with life and sadness outcomes, regardless of the victimization status or grade level of the student.

## **Preface**

This thesis is an original work of the author, Randip Gill.

Data for this study was collected as part of a larger, ongoing research project carried out by the Human Early Learning Partnership. The UBC Behavioural Research Ethics Board (BREB) granted ethical approval for this research [UBC BREB #H18-00507].

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## **Introduction**

Bullying in Canadian schools is a prominent issue with potential serious and lasting harm to victims. Bullying has been defined as intentional, repeated acts of direct (e.g., physical harm such as shoving, name calling, threatening) or indirect (e.g., purposeful social exclusion, spreading rumors) aggression towards someone who is less powerful relative to the offender (Olweus, 1993). A meta-analysis of 80 studies reporting the rates for cyber and traditional bullying indicated mean prevalence rates of 35% for traditional bullying involvement (e.g., relational, social or physical bullying) and 15% for cyber bullying involvement (Modecki, Minchin, Harbaugh, Guerra, & Runions, 2014). In World Health Organization Surveys of 35 nations, Canada has ranked in the bottom third of countries in both 2006 and 2010 for bullying and victimization (Craig et al., 2009; UNICEF Office of Research, 2013), with 1 in 3 children in Canada reporting that they experience occasional involvement in bullying or victimization, and 1 in 10 reporting chronic involvement as either the perpetrator or the victim (Molcho et al., 2009). Schools are a critical context within which peer victimization occurs, with one study showing that 1 in 7 girls and 1 in 6 boys in the fourth grade reported being victimized several times a week at school (Guhn, Schonert-Reichl, Gadermann, Hymel, & Hertzman, 2013).

Being a target of peer victimization has been associated with a number of negative mental health outcomes (see McDougall & Vaillancourt, 2015, for a review), but its potential long-term impact extends beyond the individual. For example, bullying and victimization can place youth at higher-risk for delinquency and substance misuse, with costly implications for society (Cohen & Piquero, 2009). Given the concerning prevalence rates and both the personal and societal costs of peer victimization, the present study sought to explore whether the relationship between

victimization and overall well-being (worries, sadness, and life satisfaction) is moderated by the risk-mitigating factors of adult and peer social support for children in middle childhood. The review to follow explores the theoretical framework in which this study is grounded, current understanding of the relationships among these variables, and how the present study is designed to address critical gaps within the extant literature.

**Theoretical Framework.** The present study was guided by Bronfenbrenner's (1979; Bronfenbrenner & Morris, 2006) bioecological theory of human development which states that, in addition to individual characteristics, children develop within interacting systems of the context in which they are reared (i.e., family, school, neighbourhood). The "Person" characteristics referred to in this theory include cognitive and socioemotional dispositions that allow someone to effectively engage in *proximal processes*, which are the re-occurring interactions between a person and their social, cultural, and physical environment. Thus, the actualization of individual differences and potentials may differ depending on the contextual environment in which they operate. For example, a child's feelings of connectedness and/or motivation for school will depend in part on whether he/she is bullied, socially supported, or both. The ability of individuals and groups to negotiate their access to culturally-meaningful resources for their well-being may also depend on both timing and the context in which they reside (Ungar, Ghazinour, & Richter, 2013).

Bronfenbrenner's theory offers a specific lens through which to study the impact of peer victimization on child development. Instead of focusing solely on the interactions that take place in the school setting between peers and their effect on the participants, this thesis examines the larger, dynamic context in which these interactions occur. Consistent with recommendations that this socio-ecological framework that considers both individual characteristics and social contexts

be utilized to understand bullying behaviour by youth (Swearer, Espelage, Vaillancourt, & Hymel, 2010), the present study acknowledged the interplay between the school context and the supports found within it, on the developmental outcomes of students who experience victimization.

**Developmental Outcomes and Peer Victimization.** The link between internalizing symptoms and victimization has a strong empirical foundation in diverse settings, including mental health difficulties such as anxiety and depression (see McDougall & Vaillancourt, 2015 for a review). In fact, research on the impact of childhood victimization has identified a range of detrimental associations such as lower levels of academic performance (Nishina, Juvonen, & Witkow, 2005), severe internalizing problems (Zwierzynska, Wolke, & Lereya, 2013), lower levels of life satisfaction and self-esteem, as well as higher levels of anxiety (Guhn et al., 2013; Yeung-Thompson & Leadbeater, 2013), depression (Yeung-Thompson & Leadbeater, 2013; Zwierzynska et al., 2013; Hawker & Bulton, 2000), self-harm (Özdemir, & Stattin, 2011) and attention problems (Ttofi, Farrington, & Lösel, 2011). Moreover, victimization from bullying has been shown to be negatively associated with self-efficacy and positively associated with school disaffection (Galand & Hospel, 2013).

Regarding school-related outcomes, victims of bullying have been found to be at increased risk for school avoidance and absence (Hutzell & Payne, 2012), possibly due to safety concerns (Berthold & Hoover, 2000), as well as formal school actions (e.g., suspensions, disciplinary transfers) associated with school truancy (Gastic, 2008). Students who experience chronic peer victimization also report heightened distress and academic problems (Espinoza, Gonzales, & Fuliani, 2013), lower grade point averages and poorer academic engagement (Juvonen, Wang, & Espinoza, 2011). With regard to contextual influences, school-level

differences in student perceptions of bullying climate have been associated with both lower commitment to school and less involvement in school activities (Mehta, Cornell, Fan, & Gregory, 2013), as well as decreased graduation rates (Worrell & Hale, 2001). These negative outcomes do not appear to be fleeting, as detrimental associations for formerly victimized children could be found up to 30 years later, suggesting that early victimization may have a profound impact across a child's lifespan (Ttofi, Farrington, & Lösel, 2011).

The early incidence, lasting prevalence, and adverse effects associated with bullying victimization is alarming, especially considering that victimization itself may lead to a continued cycle of further victimization in future schooling (Dill, Vernberg, Fonagy, Twemlow, & Gamm, 2004). Given the detrimental outcomes associated with victimization, it is imperative that we explore the development of these outcomes in association with victimization, and potential variables which may alter these negative developmental pathways. This was the focus of the present study.

**Middle Childhood.** The present study explored the associations among victimization, social support, and well-being outcomes during the period of middle childhood. Middle childhood is a critical developmental period between the ages of 6 to 12 (Collins, 1984) that offers striking opportunities for growth, but it is also a period of vulnerability (Eccles, Lord, & Buchanan, 1996). Social relationships that children experience outside of the family, such as those with peers, teachers, and other adults, begin to assume greater prominence during this period (Eccles & Roeser, 2013). Given evidence of the short- and long-term correlates of peer victimization reviewed above, as well as demonstrated links between victimization and later mental health disorders (Kessler et al., 2005), the impact of bullying at this age should be given significant consideration to ensure child well-being. Half of all lifetime cases of mental illness

start by the age of 14 (Kessler et al., 2005), making it important to consider and attempt to address these concerns and symptoms during an earlier period of development. It is also important to examine how the negative outcomes associated with victimization during this period may be buffered. The review of literature below considers the relationships among victimization, social support, and well-being outcomes. Much of the research, however, has focused primarily on adolescents. The present study sought to explore these constructs further with the specific age group of middle childhood, separately at grade 4 and grade 7, to understand whether these relationships are consistent with what appears in studies on adolescents.

**Stability of Victimization Status.** Given the cross-sectional nature of this study, it is important to consider whether or not peer victimization is stable across this developmental period. Although peer victimization has been characterized as a rather stable experience, research shows that indices of stability vary depending on the duration of the study, age of the victim, and the methodology used (e.g., self-report, teacher-report) (see Hymel & Swearer, 2015, for a review). Victimization appears to be rather unstable among younger children (e.g., Buhs, Ladd, & Herald, 2006) in comparison to middle elementary students, where it becomes moderately stable over intervals of 4-5 months (Ostroy, 2008) and 1-2 years (Yeung & Leadbeater, 2010). Bullying and victimization in middle school has been found to be fairly stable, with stability coefficients ranging from .60 to .91 across multiple assessments within the same school year, and from about .40 (girls) to mid .70s (boys) from one school year to the next (Boulton & Smith, 1994). Bookending the ages of interest in the present study, 15-20% of students between grades 2/3 and 7/8 were bullied consistently over time (Schäfer, Korn, Brodbeck, Wolke, & Schultz, 2005). When victimization has been examined across longer intervals, stability estimates appear to decrease, with 43% of 10 to 13 year-olds being reported by peers as victims three years later

(Scholte, Engels, Overbeek, deKemp, & Haselager, 2007) versus only 12% of boys and 6% of girls being consistently bullied from age 8 to 16 (Sourander, Helstela, Helenius & Piha, 2000). The long-term stability of victimization has also been questioned due to a suggested lack of research on different types and contexts of bullying, specifically cyberbullying (Erentaitė, Bergman, & Žukauskiene, 2012). The findings above suggest that there is moderate stability of victimization across the 3-year interval (grade 4 to grade 7) considered in the present study, with hopes of elucidating some of the factors which are associated with the stability of victimization status over middle childhood.

**Social Support.** A number of studies have explored the relationship between social support and well-being outcomes in children, including how social support may serve as a moderator in the relationship between victimization and well-being outcomes, the variables of focus in the present study. Despite variability in the social support literature in terms operational definitions and measurement strategies (Ruger, Malecki, & Demaray, 2010), social support has been generally associated with positive psychological and physical outcomes (e.g., Thoits, 2011; Wenz-Gross & Siperstein, 1997). As documented below, social support from peers or adults has been identified as a potential factor that may alleviate or protect against the harmful effects of peer victimization. In the present study, following Malecki and Demaray (2002), social support is defined as an individual's perception of both general and specific behaviours from others that they know which may be improving their functioning or buffering them from adverse outcomes.

**Adult Support.** There is evidence that support from adults can serve as a buffer against the negative outcomes for worries, sadness, and satisfaction with life, particularly for adolescent students who experience victimization. Positive relationships with adults such as teachers in school has been shown to moderate the relationship between victimization and well-being



outcomes, with higher levels of emotional support from teachers associated with fewer emotional and behavioural problems over time for adolescent students who are relationally victimized (Yeung & Leadbeater, 2010). Adult support may be a particularly important protective factor for vulnerable youth. For example, perceived support from adults at school has been associated with direct and indirect deterrence against youths' school avoidance and substance use among LGBQ adolescents with evidence of among high school lesbian/gay, bisexual, and questioning youths (Darwich, Hymel, & Waterhouse, 2012).

With somewhat younger samples, positive student-teacher interactions have been found to reinforce grade 5 to 12 students' goals for school (You et al., 2008). In addition, the likelihood of completing high school was found to be reduced for those students with either poor social or school connectedness or both at age 13-14 (Bond et al., 2007). Since students spend a significant length of time at school and with their teachers, with victimization frequently occurring on school playgrounds and in classrooms (Craig, Pepler, & Atlas, 2000), Yeung and Leadbeater (2010) suggest several mechanisms through which teacher involvement and support may help victimized students, such as responding immediately to instances of victimization and offering appropriate solutions to peer-conflict.

In addition to support that children may receive from teachers in school, they may also experience support from parents in response to peer victimization. For example, perceived parental support has been found to moderate the relationship between victimization and non-suicidal self-injury (Claes, Luyckx, Baetens, Van de Ven, & Witteman, 2015). That is, the association between victimization and non-suicidal self-injury (cutting, scratching and burning) significantly decreased if adolescents perceived their parents as being supportive. Victimized adolescents in grades 8-10 who perceived that they had less social support from family and that

their situation was hopeless were also found to be more likely to experience instances of suicidal ideation (Bonanno & Hymel, 2010). Victimized children aged 11 to 15 who had poor relationships with their mother and/or father were also more likely to be socially withdrawn, whereas those who had positive relationships with their mother reported lower anxiety and depression (Baldry, 2004). Of interest in the present study was whether adult support, from parents and/or teachers, would moderate the association between victimization of students and their well-being outcomes.

**Peer Support.** In addition to adult support, peer support may also serve as a buffer against the negative outcomes associated with peer victimization, though there have been conflicting results in the literature. For example, children in the 4<sup>th</sup> and 5<sup>th</sup> grade with a mutual best friend at school have been found to show less severe increases in negative internalizing and externalizing behaviours due to victimization, as compared with children without a mutual best friend at school (Hodges, Boivin, Vitaro, & Bukowski, 1999). In addition, physically victimized youth, aged 10-14, with low peer support reported higher levels of depression than those with high peer support (Papafratzeskakou, Kim, Longo, & Riser, 2011). Peer support and peer prosocial interactions have been found to serve as a protective factor in the relationship between victimization and satisfaction with life (Martin & Hueber, 2007; Flaspohler, Elfstrom, Vanderzee, & Sink, 2009) and positive affect (Martin & Huebner, 2007) for children prior to adolescence. Hodges et al., (1999) suggest that positive peer relationships can serve as a protective factor through actions such as alerting the teacher when their friend is experiencing victimization, influencing the aggressor's perception of their friend, or possibly by fighting back against the aggressor alongside the victim.

Regarding adolescents, although relationally victimized youth aged 14-19 with low peer support also reported higher levels of depression (Cooley, Fite, Rubens, & Tunno, 2015), other studies have found no moderating effects of peer support on reported depression among those who have been harassed by peers (Rigby, 2000; Viviano, 2014). In other studies, higher emotional support from peers has actually been found to be related to higher levels of depression among relationally victimized adolescents, possibly due to co-rumination with peers (Desjardins & Leadbeater, 2011; Yeung & Leadbeater, 2013). Social support may serve as either a protective or vulnerability-enhancing role depending on the source of support, for example, from mothers, fathers, or peers (Desjardins & Leadbeater, 2011). Given these mixed findings, the present research explored how peer support might buffer the association between reported peer victimization and well-being outcomes, and how the presence of peer support may interact with adult support in this association.

**Sex Differences.** The present study also considered sex of participants, given evidence that differential outcomes have been associated with victimization and social support for male versus female students. Victimization is a predictor of self-reported symptoms of anxiety and depression, particularly for girls (Bond, Carlin, Thomas, Rubin, & Patton, 2001), with an underlying mechanism proposed that girls tend to take a more passive role, resulting in greater likelihood of internalizing the experience of negative events, eventually leading to symptoms of anxiety and depression. Boys who are victimized are more likely to report aggressive behavior, whereas females report more somatic problems (Renae-McGee et al., 2011). In a longitudinal study utilizing data from participants between the ages of 10 and 20 years, Biebl, DiLalla, Davis, Lynch, and Shinn (2011) found that, unlike boys, chronically victimized girls reported significantly more physical health problems and emotional symptoms.

Social support has also been suggested to work differently for boys and girls. For example, classmate support among middle school students was found to moderate the relationship between victimization and distress from bullying differentially by sex, playing a buffering role against internalizing distress for both sexes, but with close friend support for females associating with higher externalizing distress (Davidson & Demaray, 2007). Yeung and Leadbeater (2013) found that, for early and late adolescent boys, higher levels of friend support were associated with more positive outcomes in the association between physical and relational victimization with depression and anxiety. In contrast, for early adolescent girls, higher levels of friend support predicted higher levels of depression and anxiety for those who were physically victimized. Given these documented sex differences, the present study included the variable of sex in analyses to account for potential interactions with predictors and differences in well-being outcomes.

### **The Present Study**

The present study is an extension of previous work which utilized a subset of the sample and grade level of the current study. In an initial examination of the self-report measure utilized in the present study (Schonert-Reichl et al., 2010), grade 4 children's overall health and well-being was linked to supportive relationships with adults at home, school, and in their neighborhood. In addition, victimization was associated with negative well-being outcomes for these children. Subsequently, in a sample of 2792 grade 4 students, Guhn et al. (2012) found that positive relationships with adults and peers were most strongly associated with reported satisfaction with life, while victimization was most strongly associated with reported worries and sadness. In this study, however, there were no significant 2 or 3-way interactions between adult

and/or peer relationships, victimization, and sex on children's well-being, though one 4-way interaction was observed (Guhn et al., 2012).

One possible reason that Guhn et al. (2012) failed to find the expected interactions among support, victimization and sex concerns their utilization of an overall, mean score for victimization. As detailed in the Measures section below, the victimization scale in this study included four items, reflecting four types of victimization. Specifically, students reported the frequency with which they experienced physical, verbal, social and cyber victimization, with an overall average composite of victimization (across types) utilized in the subsequent analysis. Of concern here is that students could potentially report being severely victimized with only one type of bullying, reporting low victimization on the other items, leading to a low mean score, suggesting a lack of victimization experienced. Similarly, the utilization of mean scores for social support received from multiple sources in previous studies is also problematic, as students may report high or low support from some sources, but not others (for example, "adults at home", "adults at school" and "adults in the neighbourhood"), again resulting in an overall low score for social support.

The present study extends this work, utilizing an expanded sample that included children in both grade 4 and grade 7, and utilizing strict categorization criteria for predictor variables to more stringently delineate students who are victimized versus those who are not victimized, and those that have high or low support from adults or peers. Specifically, the present study examined the role of adult and peer support on the associations between peer victimization and well-being outcomes (worries, sadness, satisfaction with life) during middle childhood, considering a large sample of students in grades 4 and 7. Of primary interest was addressing the question of whether victimized and non-victimized students in grade 4 and grade 7 differ in

satisfaction with life, sadness and/or worries as a function of the availability of peer and adult support, and whether these relationships varied for boys and girls.

Based on the findings reported in previous research utilizing a portion of the grade 4 population and using averaged, composite indices of victimization and social support (i.e., Guhn et al., 2012; Schonert-Reichl et al., 2010), it was expected that victimized students would report lower levels of satisfaction with life, and higher levels of worries and sadness compared to non-victimized students. Based on previous work (e.g., Guhn et al., 2012), it was also expected that children with low peer and/or adult support would report lower levels of satisfaction with life, and higher levels of worries and sadness. Utilizing more stringent categorization criteria for predictor variables, it was hypothesized that, in the present study, adult and peer support each would serve as a moderator between victimization and self-reported worries, sadness, and life satisfaction at both grade 4 and grade 7. Specifically, the presence of high adult support and high peer support would mitigate the negative well-being outcomes associated with high victimization. It was further hypothesized that non-victimized students who reported having both adult support and peer support would experience the most positive well-being outcomes (i.e., higher satisfaction with life and lower worries and sadness), whereas victimized students who reported neither adult nor peer support would report the worst well-being outcomes (i.e., lower satisfaction with life and higher worries and sadness). Victimized students who reported access to only one type of social support were expected to report intermediate levels of worry, sadness and life satisfaction. Given the developmental trajectory of children moving towards greater influence and communication from peers and away from their parents as they age (e.g., Berndt, 1979; Nickerson & Nagle, 2004), it was further hypothesized that grade 7 students' well-being

outcomes would be associated with peer support to a greater extent than grade 4 students, whose reported well-being would be associated to a greater degree with available support from adults.

## **Method**

Data for the present study was drawn from a dataset from a large population-level research project conducted by the Human Early Learning Partnership (HELP) at UBC. Specifically, this study utilized data obtained via self-report surveys completed by students in grade 4 and grade 7, the *Middle Years Development Instrument* (MDI; Schonert-Reichl et al., 2013). The MDI consists of six demographic questions and 72 items on various aspects of development that provide a brief assessment of five areas of development: physical health and well-being, connectedness to peers and adults, social and emotional development, school experiences (i.e., victimization) and use of after-school time. The present study considered student ratings of their perceived levels of physical, verbal, social and cyber victimization by peers, their peer relationships, operationalized in terms of peer connectedness and friendship intimacy, their adult relationships, operationalized in terms of connectedness with adults at home, at school, and in the neighbourhood, as well as self-report indices of life satisfaction, worries, and sadness. Each measure is described in detail below.

### **Participants**

This study utilized a subsample of an ethnically-diverse dataset of 36,580 grade 4 students from 500 schools ( $M_{\text{age}} = 9.04$ ,  $SD = .58$ ; 47% female, 48% male), and 21,733 grade 7 students from 330 schools ( $M_{\text{age}} = 12.06$ ,  $SD = .41$ ; 46% female, 49% male) completed the MDI as part of district-wide assessments. Using first-language(s) learned as an estimate of ethnic

background, 65% of the sample at grade 4 learned English first at home, followed by Other (or English and Others) (10.2%), Mandarin (or Mandarin and English) (4.2%), Cantonese (or Cantonese and English) (4.1%), Punjabi (or Punjabi and English) (2.7%), Filipino/Tagalog (or Filipino/Tagalog and English) (2.5%), Korean (or Korean and English) (2%) and Spanish (or Spanish and English) (1.9%). In the grade 7 sample, 60% of participants learned English first at home, followed by Other (or English and Others) (10.7%), Mandarin (or Mandarin and English) (5.8%), Cantonese (or Cantonese and English) (4.6%), Korean (or Korean and English) (3.6%), Filipino/Tagalog (or Filipino/Tagalog and English) (3.1%), Spanish (or Spanish and English) (1.9%), and Punjabi (or Punjabi and English) (1.8%).

Participation was voluntary for schools, teachers, and students. A “passive consent” process was utilized, which involved parent(s)/guardian(s) being informed of the research via letters (see Appendix A), and given the option to withdraw their child(ren) from the research if by submitting a note stating their decision to the teacher or school. Parent(s)/guardians(s) were given four weeks to withdraw their consent for their child(ren)’s participation. The parent letter was translated into several of the most common languages found in the school districts. Parents/guardians were also informed that could request a copy of the MDI survey in English if they desired.

Students in each participating classroom were asked to provide their own assent for participation prior to the survey administration (see Appendix B). Specifically, teachers read aloud a student assent script (see Appendix C) which informed them that participation was voluntary, that their responses were confidential, that the survey was not a test, and that there would be no consequences if a student chose not to participate. If students chose not to participate, they engaged in quiet reading during the survey period.



## **Procedure**

Data were collected in participating schools during a district-wide administration of the MDI between 2010 and 2018. The MDI was administered by teachers, typically in their regular classroom, with each student individually completing their survey on paper or through the use of laptops/tablets.

Teachers who chose to participate received a manual for administration of the MDI. Teacher read each item aloud as students completed the survey and were available to answer questions if a student did not understand an item. Students first completed demographic items, before moving on to items regarding their experiences. At the end of the survey, students were provided an opportunity to state whether they would like to leave a private message to their teacher and principal who could follow up with them about problems they may have experienced that relate to topics in the survey. All recruitment, consent, and assent procedures were approved by the University of British Columbia's Human Subjects Institutional Review Board.

## **Measures**

Each measure utilized in this study is described in detail below, and a copy of the full MDI survey is provided across Appendix B (student assent script), Appendix C (student assent check form), and Appendix D (electronic MDI survey 2017-2018).

**Demographic Variables.** Demographic information collected that were relevant to the present study included grade and sex.

**Peer Victimization.** Following Vaillancourt et al. (2008, 2010), participants were provided with a definition and explanation of bullying behaviour consistent with the definition provided by Olweus (1993), with reference to intentionality, repetition and power imbalance. Students were then asked to rate how often they had been physically, verbally, socially, and/or

cyber victimized through peer bullying, with examples provided for each item. These items were adapted from the *Safe School Student Survey* (Vaillancourt et al., 2008, 2010; Trach, Hymel, Waterhouse, & Neale, 2010). Participants reported on the frequency with which they experienced each of the four types of bullying on a 5-point, Likert scale (1= *not at all this school year*; 2= *once or a few times*; 3= *about every month*; 4= *about every week*; 5= *many times a week*). As in previous studies (Schonert-Reichl et al., 2012, 2016; Guhn et al., 2012) a composite score of peer victimization was computed as the average of responses across the four items, with higher scores indicating greater victimization. This overall score has been found to have adequate internal consistency in previous research (e.g.,  $\alpha = .77$ ; Schonert-Reichl et al., 2016), and in the present study for both grade 4 ( $\alpha = .79$ ) and grade 7 students ( $\alpha = .78$ ).

For the primary analyses of this study, participants were categorized as victims or not in both grade 4 and 7. Participants were categorized as “victims” if they responded to one or more of the four victimization items as being victimized “every month” or more. Those who responded to all four victimization items with “1=not at all this school year” were categorized as “non-victims”. As opposed to the utilization of mean scores for victimization, this stringent criterion may allow for the identification of who are severely victimized by one form of bullying (e.g., cyber victimized) but not victimized through any other form (e.g., physical, verbal, or social victimization). The criteria utilized in the present study ensures that any student who is frequently victimized in through at least one form of bullying has their status categorized as “high victimization”. The utilization of a “low victimization” group in the present study in which students responded to all four types of victimization with “not at all this school year” ensures that there is a stark, clear delineation between students who are victimized frequently, and those who are not victimized at all. The number of grade 4 students who were categorized with “high

victimization” was 11,014 (51% of the sample; 5,130 female, 5,884 male). The number of grade 4 students who were categorized with “low victimization” was 10,552 (49% of the sample; 5,289 female, 5,263 male). At grade 7, the number students who were categorized with “high victimization” was 5,003 (2,485 female, 2,518 male). The number of grade 7 students who were categorized with “low victimization” was 7,259 (3,300 female, 3,959 male).

**Worries.** Participants were asked to rate their agreement or disagreement to three items taken from the *Seattle Personality Questionnaire* (Kusche, Greenberg, Beilke, & 1988; Rains, 2003): “I worry about what other kids might be saying about me”, “I worry a lot that other people might not like me”, and “I worry about being teased”. Responses to the worries items were made on a 5-point, Likert scale (1= *disagree a lot*; 2= *disagree a little*; 3= *don’t agree or disagree*; 4= *agree a little*; 5= *agree a lot*). A composite worry score was computed as the average of responses across the three items, with higher scores indicating greater experience of worries. This 3-item scale has been found to have good internal consistency in previous research ( $\alpha = .80$ ; Schonert-Reichl et al., 2013) and in the present study for both grade 4 ( $\alpha = .82$ ) and grade 7 students ( $\alpha = .87$ ).

**Sadness.** Participants were asked to rate their agreement or disagreement to three items taken from the *Seattle Personality Questionnaire* (Kusche, Greenberg, Beilke, & 1988; Rains, 2003): “I feel unhappy a lot of the time”, “I feel upset about things”, and “I feel that I do things wrong a lot”. Responses to each item were made on a 5-point, Likert scale (1= *disagree a lot*; 2= *disagree a little*; 3= *don’t agree or disagree*; 4= *agree a little*; 5= *agree a lot*). A composite sadness score was computed based on the average response across the three items, with higher scores indicating higher levels of sadness. This three-item scale has been found to have adequate

internal consistency in both previous research ( $\alpha = .70$ ; Schonert-Reichl et al., 2013) and in the present study for both grade 4 ( $\alpha = .70$ ) and grade 7 students ( $\alpha = .78$ ).

**Life Satisfaction.** Participants were asked to rate their agreement or disagreement with five statements regarding their feelings of satisfaction with life: “In most ways my life is close to the way I would want it to be”, “The things in my life are excellent”, “I am happy with my life”, “So far I have gotten the important things I want in life”, and “If I could live my life over, I would have it the same way”. This *Satisfaction with Life Scale for Children* (Gadernann, Schonert-Reichl, & Zumbo, 2010) is an adaptation of the *Satisfaction with Life Scale* (Diener, Emmons, Larsen, & Griffin, 1985). Responses to the five items were made on a 5-point, Likert scale (1= *disagree a lot*; 2= *disagree a little*; 3= *don’t agree or disagree*; 4= *agree a little*; 5= *agree a lot*). A composite life satisfaction score was computed, based on the average response to all five items, with higher scores indicating greater satisfaction with life. The resulting 5-item scale has been found to have good internal consistency in previous research ( $\alpha = .82$ ; Schonert-Reichl et al., 2013), and in the present study for both grade 4 ( $\alpha = .80$ ) and grade 7 students ( $\alpha = .86$ ).

**Adult Support.** Participants were asked to rate how true 10 statements related to social relationships with adults were for them. These items were adapted from *the California Healthy Kids Survey—Middle School Questionnaire* (Constantine & Benard, 2001; WestEd, 2011) and yielded three subscales: (1) Connectedness with adults at home (4 items); (2) Connectedness with adults at school (3 items); and (3) Connectedness with adults in the neighbourhood (3 items). Example items include, “At my school, there is a teacher or another adult who really cares about me.” and “In my home, there is a parent or another adult who I can talk to about my problems”. Responses to these items were made on a 4-point, Likert scale (1= *not at all true*; 2=

*a little true*; 3= *pretty much true*; 4= *very much true*). Composite scores for each of the three subscales were computed as the average response across relevant items, with higher scores indicating higher levels of perceived adult support. A previous, 9-item version of this subscale was found to have good internal consistency,  $\alpha = .82$  (Guhn, Schonert-Reichl, Gadermann, Hymel, & Hertzman, 2013).

In the present study, only two of the three subscales were used, reflecting adult support at home and school. The “neighborhood” adult support scale was not included as student responses to these items were of considerably lower frequency, and there is not a clear indication in the literature of the association between neighbourhood adult support with children’s well-being at middle childhood. The resulting 6-item composite of adult support/connectedness at home and school was found to demonstrate adequate internal consistency in the present study for both grade 4 ( $\alpha = .72$ ) and grade 7 students ( $\alpha = .81$ ).

For the primary analysis, participants were separately categorized as “high” or “low” in terms of adult support/connectedness. Specifically, participants were categorized as “high” if the mean of the composite scores within both of the two subscales, reflecting connectedness with adults at school and home, was greater than or equal to 3.5. Participants were categorized as “low” in adult support/connectedness if the mean on both of these subscales was less than or equal to 2.5. The number of grade 4 students who were categorized with “high adult support” was 11,576 (88% of the sample; 6,552 female, 5,024 male). The number of grade 4 students who were categorized with “low adult support” was 1,604 (12% of the sample; 569 female, 1,035 male). At grade 7, the number of students who were categorized with “high adult support” was 5,168 (2,620 female, 2,548 male). The number of grade 7 students who were categorized with “low adult support” was 1,158 (563 female, 595 male).

**Peer Support.** Participants were asked to rate their agreement with six statements regarding social connectedness with peers, using items adapted from the *Relational Provisional Loneliness Questionnaire* (Hayden-Thomson, 1989). These items yielded two subscales (1) peer connectedness (e.g., “I feel part of a group of friends that do things together.”) and (2) friendship intimacy (e.g., “I have a friend I can tell everything to.”). Responses to these items were made on a 5-point, Likert scale (1= *disagree a lot*; 2= *disagree a little*; 3= *don’t agree or disagree*, 4= *agree a little*; 5= *agree a lot*). In the present sample, this composite index of peer support/connectedness also demonstrated high internal consistency for both grade 4 ( $\alpha = .82$ ) and grade 7 students ( $\alpha = .83$ ). Composite scores for each of the two subscales were computed, based on the average responses across relevant items, with higher scores indicating higher levels of perceived peer support/connectedness.

For some analyses, participants were categorized as “high” or “low” in perceived peer support/connectedness. Participants were categorized as “high” if the mean of the mean scores within both of the 2 subscales of “Peer connectedness” and “Friendship intimacy” were greater than or equal to 4.5. Participants were categorized as “low” in peer support if the mean on both of these subscales were equal to or below 3. The number of grade 4 students who were categorized with “high peer support” was 10,511 (83% of the sample; 5,662 female, 4,849 male). The number of grade 4 students who were categorized with “low peer support” was 2,146 (17% of the sample; 904 female, 1,242 male). At grade 7, the number students who were categorized with “high peer support” was 6,048 (3,087 female, 2,961 male). The number of grade 7 students who were categorized with “low peer support” was 1,157 (516 female, 641 male).

## **Results**

### **Plan of Analysis**

The aim of the present study was to explore whether adult and/or peer support moderated the relationship between victimization and well-being outcomes for children in both grade 4 and grade 7. As a first step, descriptive statistics were generated. Preliminary and primary analyses then followed, as outlined below. Preliminary analyses were first conducted to verify that each of the scales met the criteria and assumptions for the relevant data analyses to be conducted. The criteria and assumptions that were tested included reliability (internal consistency), skewness, linearity of relationships between independent and dependant variables, normality of the distribution of residuals, multicollinearity, independence of errors, and heterogeneity in residual variance. Following the initial descriptive analyses, sex and victimization status differences in each of the variables were explored using analysis of variance (ANOVA) and intercorrelations among the variables examined. Next, the relations among each type of social support and sex (moderator variables), victimization (independent variable), and worries, sadness, and satisfaction with life (dependant variables) were explored to test the expected main and interacting relationships among these variables. Due to the number of hypotheses being tested in the preliminary and primary analyses on this dataset, Bonferroni corrections were conducted to adjust the p-values accordingly (Armstrong, 2004). In the preliminary analysis for sex and victimization status differences, 10 separate statistical tests were performed that utilized the same independent variables. Due to the presence of multiple comparisons, the initial alpha value of 0.05 was divided by 10, which resulted in a new critical p-value of 0.005. Because 6 separate statistical tests were performed utilizing the same independent variables in the primary analysis,

the initial alpha value of 0.05 was divided by 6, resulting in a new critical p-value of 0.008. The results of the preliminary analyses are detailed first below, followed by the primary analysis.

### **Testing Assumptions**

**Normality.** Scatterplots of the relationships between the predictor variable of victimization with the dependant variables of worries, sadness, and satisfaction with life were tested visually in order to determine satisfaction of the assumption of normality. Normal Q-Q plots were utilized in order to visually determine the satisfaction of the assumption of normality in the distribution of residuals. A histogram of the residuals and Q-Q plot in comparison to an expected normal distribution were created in order to determine if this assumption was met. The assumption of normality was not satisfied for victimization, adult support, and peer support. Skewness values were calculated in order to determine if values fell within an acceptable range (skewness values of -2 and 2 as cut-offs) for victimization, peer support, adult support, worries, sadness, and satisfaction with life. Adult support, peer support, and satisfaction with life were negatively skewed, whereas victimization and sadness were positively skewed. All of the variables fell within the acceptable range of skewness values of -2 and 2 (see Table 2 below).

**Linearity of Relationships.** Visual inspection of scatterplots between independent (sex and composite indices of victimization status, adult support, and peer support) and dependant variables (composite scores of sadness, worries and life satisfaction) determined that the relationships between these variables were linear.

**Correlational Analysis.** One-tailed, Pearson Product Moment Correlations, conducted separately for grade 4 and grade 7 participants, were computed in order to explore the relationships among the independent, moderator and dependant variables in the present study, and in order to test for the assumption of multicollinearity. Based on the literature presented



above, victimization and each of the outcome variables of life satisfaction, worries, and sadness were expected to be correlated. Higher levels of victimization were expected to be associated with greater reported sadness and worries, and lower satisfaction with life. The moderator variables of adult support and peer support were also expected to be positively correlated with the outcome variables of satisfaction with life, sadness, and worries, where higher levels of peer support and adult support were expected to be associated with lower levels of worries and sadness, and higher levels of satisfaction with life.

Not surprisingly, given the large sample size, the correlations observed between victimization and both moderator variables (adult support and peer support) and outcome variables (satisfaction with life, sadness, and worries) were all significant at the .01 level at both grade 4 and grade 7, as presented in Table 2 below. As expected, higher levels of victimization were associated with higher levels of both sadness and worries, lower levels of satisfaction with life, and lower levels of both adult and peer support. Reported adult and peer support were significantly related and each was significantly associated with lower levels of sadness and worries, and higher levels of satisfaction with life.

The zero-order correlations observed in the present study are consistent with the hypothesized direction of relationships between the independent and dependent variables. The high positive correlation between adult support and peer support tells us that there are likely to be many students who report having or lacking both adult and peer support, but fewer participants who report perceiving support from one source but not the other (e.g., high in peer support but low in adult support, or vice versa). This could affect the exploration of the interaction between sources of support in the primary analyses.

Table 1. Bivariate Correlations Among Independent, Moderator and Dependant Variables at Grade 4/7

Variable	1	2	3	4	5	6
1. Victimization		-.16	-.11	-.19	.24	.29
2. Peer Support	-.25		.44	.44	-.26	-.15
3. Adult Support	-.19	.42		.41	-.25	-.11
4. Satisfaction with Life	-.28	.45	.50		-.35	-.17
5. Sadness	.33	-.33	-.34	-.49		.46
6. Worries	.33	-.22	-.16	-.27	.49	

*Note.* Grade 4 data is the top diagonal. Grade 7 data is the bottom diagonal.

Grade 4 N = 29251; Grade 7 N=17550

All correlations are significant at the 0.01 level

**Independence of errors.** This assumption states that residuals of variables are independent of one another. A visual inspection of residual plots which were generated indicated that this assumption had been met.

**Homoscedasticity.** This assumption states that the variance of the residuals is constant. A visual inspection of the generated plot for the standardized residual versus standardized predictor value scatterplot indicated that this assumption had been met.

## Descriptive Statistics

Descriptive statistics for the independent, moderator, and dependant variables considered are presented in Table 2 below, computed separately for the grade 4 and grade 7 participants.

Table 2. Descriptive Statistics for Independent, Moderator and Dependent Variables at Grade 4/7

Variable	Mean	Standard Deviation	Skewness
<i>Grade 4</i>			
Victimization	1.69	.84	1.68
Adult Support	3.36	.57	-.108
Peer Support	4.17	.82	-1.36
Satisfaction with Life	4.09	.84	-1.20
Sadness	2.56	1.01	.31
Worries	2.99	1.26	-.03
<i>Grade 7</i>			
Victimization	1.56	.72	1.90
Adult Support	3.27	.59	-.90
Peer Support	4.20	.79	-1.41
Satisfaction with Life	3.96	.86	-.96
Sadness	2.61	1.01	.26
Worries	2.88	1.26	.03

*Note.* Grade 4 N = 28733  
Grade 7 N = 17550

### **Preliminary analysis: Sex and victimization status differences**

In order to assess sex, victimization status, and sex by victimization status differences for each of the social support and well-being measures, a series of 2 (sex; male or female) by 2

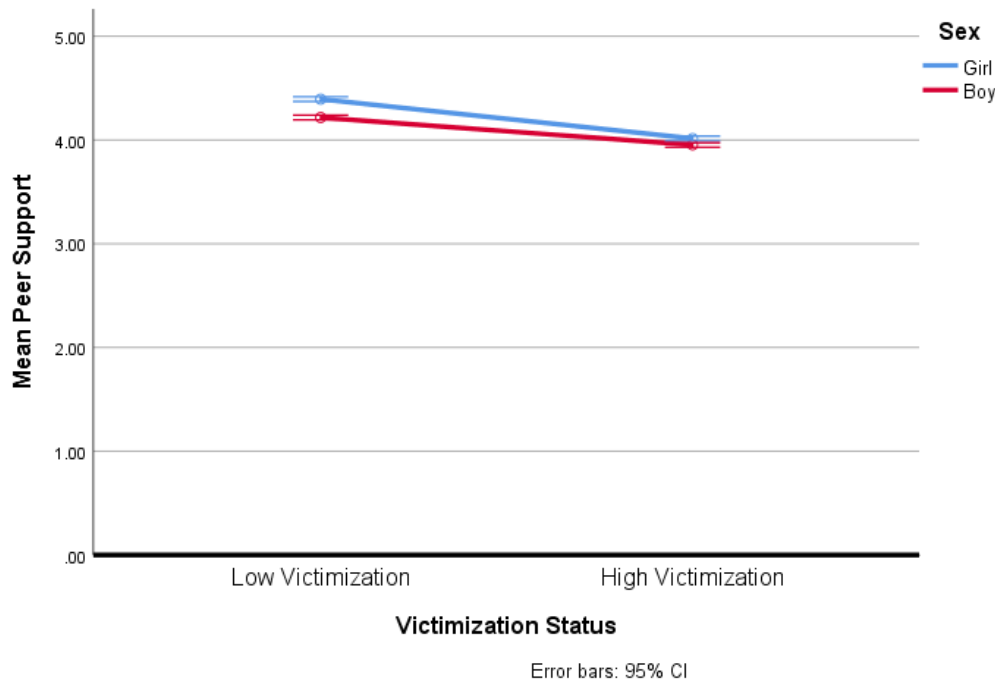
(victimization status; “not victimized” or “victimized”) univariate analyses of variance (ANOVA) were conducted for each well-being outcome with both the grade 4 and grade 7 samples. This analysis was conducted with the independent variables of victimization and sex predicting the dependant variables of adult support, peer support, satisfaction with life, worries, and sadness. Results are described below for each grade level, in turn.

**Grade 4.** In the grade 4 sample, a significant main effect for sex was found for adult support,  $F(20,662) = 289.49, p < .001$ , with girls ( $M=3.43, SD=.55$ ) reporting higher levels of adult support than boys ( $M=3.29, SD=.58$ ), accounting for 1% of the variance in adult support ( $\eta^2=.01$ ). A significant main effect of victimization was also found,  $F(20,662) = 237.49, p < .001$ , with non-victimized students ( $M=3.42, SD=.55$ ) reporting higher levels of adult support than victimized students ( $M=3.29, SD=.58$ ) (Figure 1). Victimization accounted for 1% of the variance in adult support ( $\eta^2=.01$ ). The sex by victimization status interaction for adult support  $F(20,662)=4.76, p > .005$  was not significant.

A significant main effect of sex was also found for peer support,  $F(20,680) = 107.54, p < .001$ , with girls ( $M=4.21, SD=.82$ ) reporting higher levels of peer support than boys ( $M=4.08, SD=.86$ ). Sex accounted for 1% of the variance in peer support ( $\eta^2=.01$ ). Peer support also differed significantly across victimization status,  $F(20,680) = 781.80, p < .001$ , with non-victimized students ( $M=4.31, SD=.75$ ) reporting higher levels of peer support than victimized students ( $M=3.98, SD=.90$ ). Victimization accounted for 4% of the variance in peer support ( $\eta^2=.04$ ). As shown in Figure 1 below, the sex by victimization status interaction for peer support  $F(20,680)=24.99, p < .001$  was also significant, indicating that levels of self-reported peer support by non-victimized and victimized students differed significantly by sex. This interaction accounted for less than 1% of the variance in peer support ( $\eta^2 < .01$ ). According to results of two

follow-up, post-hoc independent samples t-tests (one comparing non-victimized girls and boys and the other comparing victimized girls and boys), non-victimized girls ( $M=4.39$ ,  $SD=.69$ ) reported higher levels of perceived peer support than non-victimized boys ( $M=4.22$ ,  $SD=.79$ ),  $t(10,143) = 12.04$ ,  $p<.001$ , and victimized girls ( $M=4.01$ ,  $SD=.90$ ) reported higher levels of perceived peer support than victimized boys ( $M=3.95$ ,  $SD=.91$ ),  $t(10,534) = 3.51$ ,  $p<.001$ . Results of a second pair of post-hoc independent samples t-tests, exploring sex differences in peer support for both victimized and non-victimized students, indicated that non-victimized girls ( $M=4.22$ ,  $SD=.69$ ) also reported higher levels of perceived peer support than victimized girls ( $M=4.01$ ,  $SD=.90$ ),  $t(10,012) = 23.74$ ,  $p<.001$ , and that non-victimized boys ( $M=4.22$ ,  $SD=.79$ ) reported higher levels of perceived peer support than victimized boys ( $M=3.95$ ,  $SD=.91$ ),  $t(10,665) = 16.01$ ,  $p<.001$ . Girls reported significantly higher peer support than boys, regardless of victimization status, and those who were non-victimized reported higher peer support than victimized students, regardless of sex.

Figure 1. Sex and Victimization as Predictors of Peer Support (Grade 4)



Satisfaction with life was also found to differ significantly for grade 4 boys and girls,  $F(20,779) = 33.13$ ,  $p < .001$ , with girls ( $M = 4.12$ ,  $SD = .85$ ) reporting higher levels of satisfaction with life than boys ( $M = 4.04$ ,  $SD = .88$ ), accounting for 1% of the variance in satisfaction with life ( $\eta^2 < .01$ ). A significant main effect of victimization was also found,  $F(20,779) = 1049.59$ ,  $p < .001$ , with non-victimized students ( $M = 4.27$ ,  $SD = .75$ ) reporting higher levels of satisfaction with life than victimized students ( $M = 3.89$ ,  $SD = .93$ ). 5% of the variance in satisfaction with life was accounted for by victimization status ( $\eta^2 < .01$ ). The sex by victimization status interaction for satisfaction with life  $F(20,779) = 24.99$ ,  $p > .005$  was not significant.

A significant main effect of sex was not found for sadness,  $F(20,966) = 7.23$ ,  $p > .005$ . A significant main effect of victimization was found for sadness,  $F(20,966) = 1603.60$ ,  $p < .001$ , with victimized students ( $M = 2.84$ ,  $SD = 1.02$ ) reporting higher levels of sadness than non-victimized students ( $M = 2.29$ ,  $SD = .96$ ). Victimization accounted for 7% of the variance in

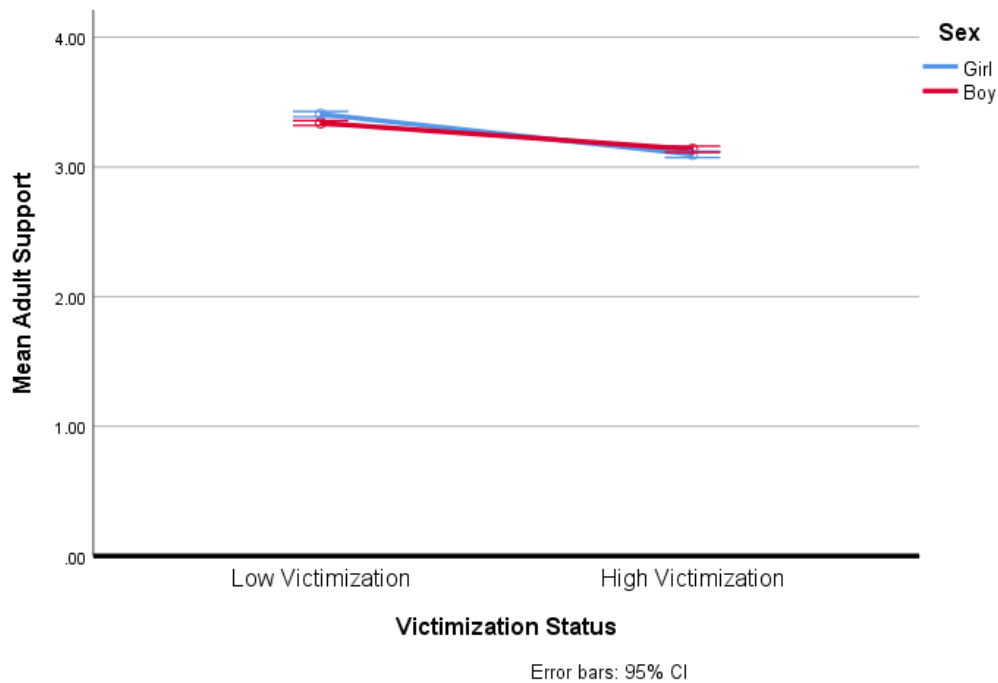
sadness ( $\eta^2=.07$ ). The sex by victimization status interaction for sadness  $F(20,966)=2.48, p>.005$  was not significant.

Self-reported worries appeared to also differ significantly across sex,  $F(20,991)=210.09, p<.001$ , with girls ( $M=3.09, SD=1.29$ ) reporting higher levels of worries than boys ( $M=2.87, SD=1.28$ ). This main effect of sex accounted for 1% of the variance in worries ( $\eta^2=.01$ ). Worries also varied significantly across victimization status,  $F(20,991) = 2721.40, p<.001$ , with victimized students ( $M=3.40, SD=1.22$ ) reporting higher levels of worries than non-victimized students ( $M=2.54, SD=1.21$ ). Victimization accounted for 12% of the variance in worries ( $\eta^2=.12$ ). The sex by victimization status interaction for worries  $F(20,991)=5.48, p>.005$  was not significant.

**Grade 7.** In the grade 7 sample, reported adult support did not vary significantly by sex  $F(11,644) = 1.59, p>.005$ , but differed significantly across victimized and non-victimized students,  $F(11,644) = 524.84, p<.001$ , with non-victimized students ( $M=3.37, SD=.56$ ) reporting higher levels of adult support than victimized students ( $M=3.11, SD=.64$ ). Victimization accounted for 4% of the variance in adult support ( $\eta^2=.04$ ). The main effect of victimization, however, was qualified by a significant sex by victimization interaction as presented in Figure 2 below,  $F(11,644)=23.63, p<.001$ , accounting for less than 1% of the variance in adult support ( $\eta^2<.01$ ). Results of follow-up, post-hoc independent samples t-tests exploring sex differences in adult support for victimized and non-victimized youth, demonstrated that non-victimized girls ( $M=3.41, SD=.55$ ) reported higher levels of perceived adult support than non-victimized boys ( $M=3.34, SD=.57$ ),  $t(6912) = 5.06, p<.001$ , and that victimized girls ( $M=3.10, SD=.64$ ) reported lower levels of perceived adult support than victimized boys ( $M=3.14, SD=.64$ ),  $t(4729) = 2.81, p<.05$ . In other words, among victimized youth, girls reported higher perceived adult support than boys, but this

pattern was reversed among highly victimized youth, where boys reported higher adult support than girls.

Figure 2. Sex and Victimization as Predictors of Adult Support (Grade 7)



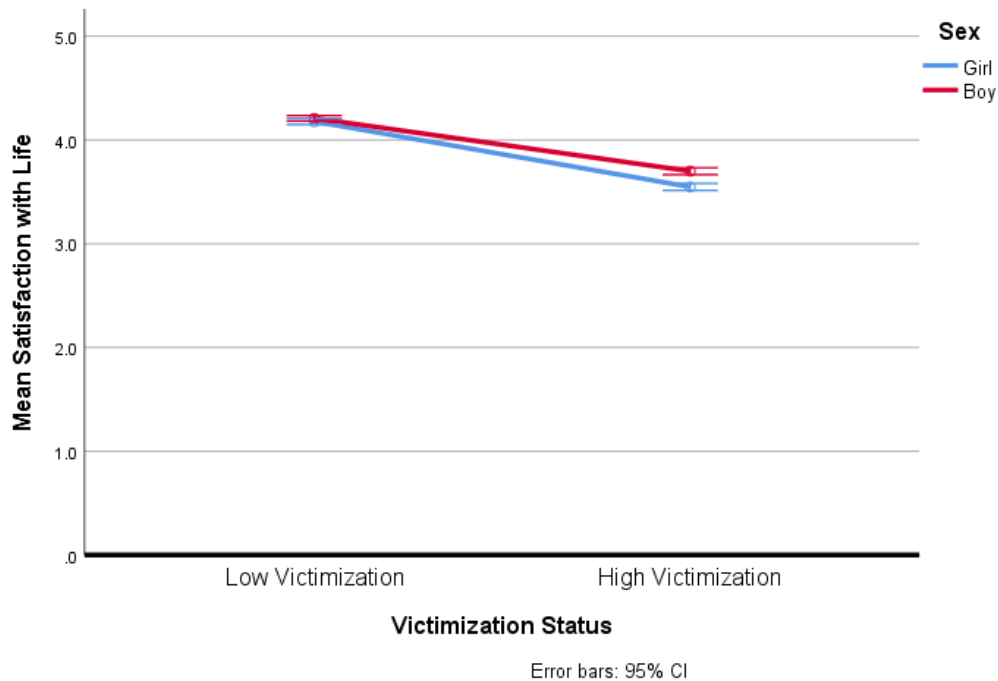
A significant main effect was found for peer support,  $F(11,771) = 40.99$ ,  $p < .001$ , with girls ( $M = 4.22$ ,  $SD = .81$ ) reporting higher levels of peer support than boys ( $M = 4.14$ ,  $SD = .83$ ). The main effect of sex accounted for less than 1% of the variance in peer support ( $\eta^2 < .01$ ). Peer support also varied significantly across victimization status,  $F(11,771) = 1042.36$ ,  $p < .001$ , with non-victimized students ( $M = 4.37$ ,  $SD = .69$ ) reporting higher levels of peer support than victimized students ( $M = 3.90$ ,  $SD = .92$ ), accounting for 8% of the variance in peer support ( $\eta^2 = .08$ ). The interaction between sex and victimization status in predicting peer support  $F(11,771) = 1.52$ ,  $p > .005$  was not significant.

Satisfaction with life differed significantly across boys and girls,  $F(11,806) = 33.60$ ,  $p < .001$ , with boys ( $M = 4.01$ ,  $SD = .86$ ) reporting higher levels of satisfaction with life than girls



( $M=3.91$ ,  $SD=.91$ ). Sex accounted for 1% of the variance in satisfaction with life ( $\eta^2<.01$ ). In addition, a significant main effect of victimization was found,  $F(11,806) = 1302.75$ ,  $p<.001$ , with non-victimized students ( $M=4.20$ ,  $SD=.76$ ) reporting higher levels of satisfaction with life than victimized students ( $M=3.62$ ,  $SD=.96$ ). Victimization accounted for 10% of the variance in peer support ( $\eta^2=.10$ ). These main effects, however, were qualified by a significant sex by victimization status interaction  $F(11,771)=14.51$ ,  $p<.001$ , accounting for less than 1% of the variance in adult support ( $\eta^2<.01$ ). As presented in Figure 3, levels of self-reported satisfaction with life by non-victimized and victimized students differed significantly by sex. Results of follow-up, post-hoc independent samples t-tests, exploring sex differences in reported life satisfaction among victimized and non-victimized youth, non-victimized girls and boys did not differ significantly in reported satisfaction with life,  $t(6977) = -1.72$ ,  $p>.05$ . However, victimized girls ( $M=3.55$ ,  $SD=.97$ ) reported significantly lower levels of satisfaction with life than victimized boys ( $M=3.70$ ,  $SD=.94$ ),  $t(4826) = -5.53$ ,  $p<.001$ . In predicting satisfaction with life at grade 7, a sex difference emerges at high victimization, where girls reported lower levels of satisfaction with life than boys.

Figure 3. Sex and Victimization as Predictors of Satisfaction with Life (Grade 7)

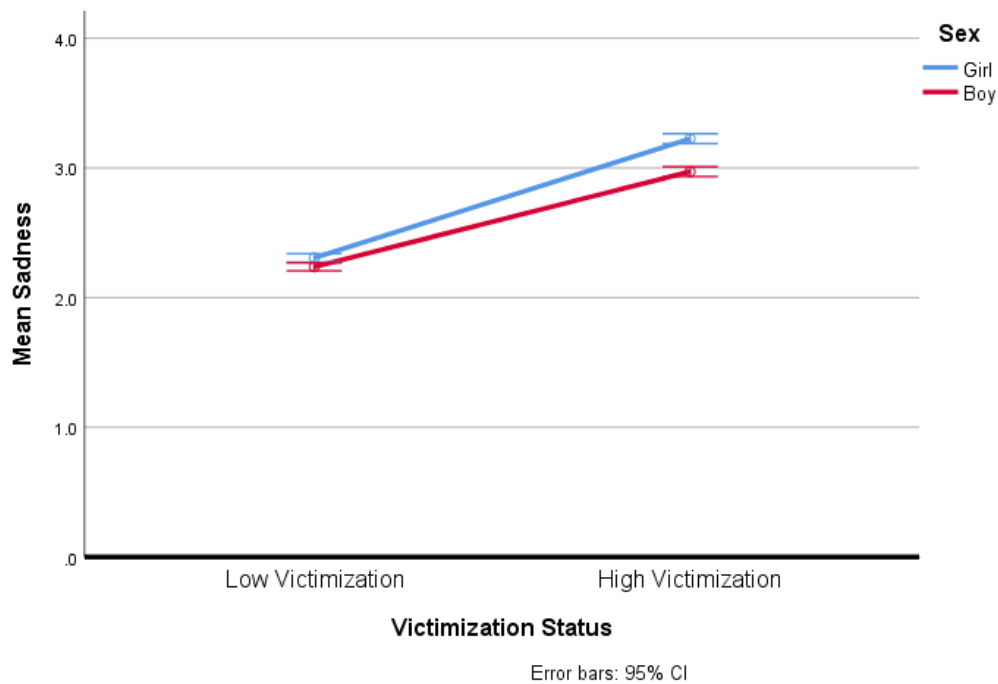


A significant main effect of sex was also found for sadness,  $F(12,016) = 82.14, p < .001$ , with girls ( $M = 2.70, SD = 1.07$ ) reporting higher levels of sadness than boys ( $M = 2.52, SD = 1.02$ ), accounting for 1% of the variance in sadness ( $\eta^2 = .01$ ). Sadness also differed significantly by victimization status,  $F(12,016) = 2149.03, p < .001$ , with victimized students ( $M = 3.10, SD = 1.01$ ) reporting higher levels of sadness than non-victimized students ( $M = 2.27, SD = .93$ ). Victimization accounted for 15% of the variance in sadness ( $\eta^2 = .15$ ).

As indicated below in Figure 4, the sex by victimization status interaction for sadness  $F(12,016) = 27.02, p < .001$  was also significant, accounting for less than 1% of the variance in adult support ( $\eta^2 < .01$ ). According to results of follow-up, post-hoc independent samples t-tests, exploring sex differences among victimized and non-victimized youth, non-victimized girls ( $M = 2.31, SD = .94$ ) reported higher levels of sadness than non-victimized boys ( $M = 2.24, SD = .92$ ),  $t(7105) = 3.11, p < .01$ , and victimized girls ( $M = 3.23, SD = 1.00$ ) reported higher levels of sadness

than victimized boys ( $M=2.97$ ,  $SD=1.00$ ),  $t(4908) = 8.90$ ,  $p<.001$ , the sex difference being greater among victimized than non-victimized youth. According to a second pair of post-hoc independent samples t-tests, non-victimized girls ( $M=2.31$ ,  $SD=.94$ ) reported lower levels of sadness than victimized girls ( $M=3.23$ ,  $SD=1.00$ ),  $t(5668) = -35.52$ ,  $p<.001$ , and non-victimized boys ( $M=2.24$ ,  $SD=.92$ ) reported lower levels of sadness than victimized boys ( $M=2.97$ ,  $SD=1.00$ ),  $t(6345) = -29.88$ ,  $p<.001$ , the difference being greater for girls than for boys, though both were significant.

Figure 4. Sex and Victimization as Predictors of Sadness (Grade 7)



A significant main effect of sex was found for worries,  $F(11,984) = 353.05$ ,  $p<.001$ , with girls ( $M=3.06$ ,  $SD=1.31$ ) reporting higher levels of worries than boys ( $M=2.61$ ,  $SD=1.27$ ). Sex accounted for 3% of the variance in worries ( $\eta^2=.03$ ). Worries also differed significantly depending on whether a student was victimized or not victimized,  $F(11,984) = 2412.65$ ,  $p<.001$ , with victimized students ( $M=3.47$ ,  $SD=1.23$ ) reporting higher levels of worries than non-

victimized students ( $M=2.38$ ,  $SD=1.17$ ). About 17% of the variance in worries was accounted for by victimization status ( $\eta^2=.17$ ). The sex by victimization status interaction for worries  $F(11,984)=3.78$ ,  $p>.005$  was not significant.

These preliminary analyses indicated that, both the support variables (adult support and peer support) and outcome variables (satisfaction with life, sadness, and worries) differed as a function of sex and/or victimization status, at both grade 4 and grade 7. Accordingly, sex was included as an independent variables in the primary analyses. As demonstrated in the interactions observed above, the main effect of victimization status on the outcome variables may be qualified by sex. If sex is not included as a predictor variable, then sex differences in the moderation may be misinterpreted or overlooked in the primary analysis exploring the moderation of adult and peer support on the links between victimization status and reported well-being.

### **Primary analysis: Social support as moderator of the relationship between victimization and well-being**

To investigate whether and how adult and peer support moderate the relationship between victimization and the well-being outcomes of satisfaction with life, sadness, and worries, a series of 2 (sex; male or female) by 2 (victimization status; non-victimized or victimized) by 2 (adult support; low or high) by 2 (peer support; low or high) univariate analyses of variance (ANOVAs) were conducted. These analyses were completed for each outcome (satisfaction with life, worries, sadness) at each grade level (4 and 7). Main effects and interaction terms (Source of Support x Victimization; Source of Support x Sex; Sex x Victimization; Source of support (1) x Source of support (2); Source of support x Sex x Victimization; Source of support (1) x Sex x

Victimization x Source of support (2)) were included in order to account for the direct and interactive associations between victimization, social support and sex with well-being outcomes. Of particular interest to the present study, exploring the potential moderating effect of peer and adult support, were interactions involving victimization and support.

**Satisfaction with Life in Grade 4.** As shown in Table 1 below, in the grade 4 sample the overall analysis including sex, victimization status, adult support, peer support, and the interaction of these variables, was statistically significant in predicting satisfaction with life  $F(3987)=206.36, p<.001$ , accounting for 44% of the variance in self-reported satisfaction with life ( $\eta^2=.44$ ). The main effect of sex was not significant,  $F(3987)=1.84, p>.008$ , but the main effect of victimization was significant,  $F(3987) = 39.96, p<.001$ , with non-victimized students ( $M=3.87, SD=.65$ ) reporting greater life satisfaction than victimized students ( $M=3.53, SD=.98$ ). Victimization accounted for 1% of the variance in satisfaction with life ( $\eta^2=.01$ ). Peer support was also a significant predictor of satisfaction with life,  $F(3987) = 344.05, p<.001$ , accounting for 8% of the variance in satisfaction with life ( $\eta^2=.08$ ). Students with more peer support ( $M=4.19, SD=.58$ ) reported higher levels of satisfaction with life than students reporting less peer support ( $M=3.21, SD=1.10$ ). Adult support was also found to significantly predict satisfaction with life,  $F(3987) = 268.95, p<.001$ , where students with greater adult support ( $M=4.14, SD=.62$ ) reported greater life satisfaction than students with less adult support ( $M=3.27, SD=1.09$ ). Adult support accounted for 6% of the variance in satisfaction with life ( $\eta^2=.06$ ).

Table 3.

*Variations in Satisfaction with Life as a function of Sex, Victimization, Adult Support and Peer Support (Grade 4)*

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Model	1189.18	15	79.28	206.36	.00***	.44
Sex	.71	1	.71	1.84	.18	.00
Victimization Status (V)	15.35	1	15.35	39.96	.00***	.01
Peer Support (PS)	132.18	1	132.18	344.05	.00***	.08
Adult Support (AS)	103.32	1	103.32	268.95	.00***	.06
Sex * V	.197	1	.20	.51	.47	.00
Sex * PS	.287	1	.29	.75	.39	.00
Sex * AS	.286	1	.29	.75	.39	.00
V * PS	1.87	1	1.87	4.87	.03	.00
V * AS	.05	1	.05	.12	.73	.00
PS * AS	1.94	1	1.94	5.05	.03	.00
Sex * V * PS	1.25	1	1.25	3.25	.07	.00
Sex * V * AS	.20	1	.20	.53	.47	.00
Sex * PS * AS	.79	1	.79	2.06	.15	.00
V * PS * AS	.19	1	.19	.50	.48	.00
Sex*V*PS*AS	.35	1	.35	.92	.34	.00
Error	1525.95	3972	.33			
Total	2715.13	3987				

\* $p < .008$ ; \*\*\* $p < .001$ .

N = 3988

**Sadness in Grade 4.** As shown in Table 2, the overall analysis including sex, victimization status, adult support, peer support, and the interaction of these variables at grade 4 was statistically significant in predicting sadness  $F(4009)=49.66, p<.001$ , accounting for 16% of the variance in self-reported sadness ( $\eta^2=.16$ ). The main effect of sex on reported sadness was not significant,  $F(4009)=.75, p>.008$ . However, a significant effect of victimization was found,  $F(4009) = 60.27, p<.001$ , accounting for 2% of the variance ( $\eta^2=.02$ ), with victimized students ( $M=3.06, SD=1.16$ ) reporting greater sadness than non-victimized students ( $M=2.40, SD=.95$ ). A significant main effect of peer support was also found,  $F(4009) =46.25, p<.001$ , accounting for 1% of the variance in sadness ( $\eta^2=.01$ ), with students without peer support ( $M=3.02, SD=1.03$ ) reporting greater sadness than students with peer support ( $M=2.44, SD=1.11$ ). Similarly, a significant main effect of adult support was found,  $F(4009) =20.00, p<.001$ , accounting for 1% of the variance ( $\eta^2=.01$ ). As was the case for peer support, students who reported less adult support ( $M=2.92, SD=1.15$ ) also reported higher sadness relative to students with more adult support ( $M=2.54, SD=1.04$ ).

Table 4.

*Variations in Sadness as a function of Sex, Victimization, Adult Support and Peer Support (Grade 4)*

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Model	747.44	15	49.83	49.67	.00***	.16
Sex	.75	1	.75	.751	.39	.00
Victimization Status (V)	60.47	1	60.47	60.27	.00***	.02
Peer Support (PS)	46.40	1	46.40	46.25	.00***	.01
Adult Support (AS)	20.04	1	20.04	19.98	.00***	.01
Sex * V	1.59	1	1.59	1.58	.21	.00
Sex * PS	2.06	1	2.06	2.05	.15	.00
Sex * AS	5.09	1	5.09	5.08	.02	.00
V * PS	.78	1	.78	.78	.38	.00
V * AS	1.35	1	1.35	1.35	.25	.00
PS * AS	2.77	1	2.77	2.76	.10	.00
Sex * V * PS	4.24e-5	1	4.24e-5	.000	.99	.00
Sex * V * AS	1.17	1	1.17	1.17	.28	.00
Sex * PS * AS	1.38	1	1.38	1.38	.24	.00
V * PS * AS	.01	1	.01	.01	.91	.00
Sex*V*PS*AS	.00	1	.00	.00	.98	.00
Error	4007.23	3994	1.00			
Total	4754.67	4009				

\* $p < .008$ ; \*\*\* $p < .001$ .

N = 4010



**Worries at Grade 4.** Presented below in Table 3, results of the analysis predicting reported worries as a function of sex, victimization status, adult support, peer support, and the interaction of these variables, was significant  $F(4023)=37.4, p<.001$ , accounting for 12% of the variance in self-reported worries ( $\eta^2=.12$ ). A significant main effect of victimization was also found,  $F(4023) = 64.93, p<.001$ , accounting for 2% of the variance ( $\eta^2=.02$ ), with victimized students ( $M=3.52, SD=1.34$ ) reporting higher levels of worries than non-victimized students ( $M=2.64, SD=1.31$ ). Finally, a significant main effect of peer support was found for worries,  $F(4023) = 12.52, p<.001$ , with students without peer support ( $M=3.27, SD=1.31$ ) reporting higher levels of worries than students with peer support ( $M=2.88, SD=1.37$ ). Peer support accounted for less than 1% of the variance in worries ( $\eta^2<.01$ ). Significant main effects of adult support were not found for worries,  $F(4023) = .001, p>.008$ .

Table 5.

*Variations in Worries as a function of Sex, Victimization, Adult Support and Peer Support (Grade 4)*

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Model	938.71	15	62.58	37.40	.00***	.12
Sex	12.84	1	12.84	7.68	.01	.00
Victimization Status (V)	108.65	1	108.65	64.93	.00***	.00
Peer Support (PS)	20.95	1	46.40	12.52	.00***	.02
Adult Support (AS)	.00	1	20.04	.00	.97	.01
Sex * V	.11	1	1.59	.07	.80	.00
Sex * PS	.02	1	2.06	.01	.91	.00
Sex * AS	1.11	1	5.09	.67	.42	.00
V * PS	.27	1	.78	.16	.69	.00
V * AS	.47	1	1.35	.28	.60	.00
PS * AS	11.06	1	2.77	6.61	.01	.00
Sex * V * PS	2.23	1	4.24e-5	1.33	.25	.00
Sex * V * AS	4.82	1	1.17	2.88	.09	.00
Sex * PS * AS	.78	1	1.38	.47	.49	.00
V * PS * AS	.29	1	.01	.18	.68	.00
Sex*V*PS*AS	3.52	1	.00	2.10	.15	.00
Error	6706.43	4008	1.67			
Total	7645.14	4023				

\* $p < .008$ ; \*\*\* $p < .001$ .

N = 4024

**Satisfaction with Life at Grade 7.** In the grade 7 sample, sex, victimization status, adult support, peer support, and the interaction of these variables, significantly predicted satisfaction with life (see Table 4),  $F(1861)=145.73, p<.001$ , accounting for 54% of the variance in self-reported satisfaction with life ( $\eta^2=.54$ ). Satisfaction with life varied significantly across victimization status,  $F(1861) = 32.55, p<.001$ , where non-victimized students ( $M=3.77, SD=.62$ ) reported greater life satisfaction than victimized students ( $M=3.37, SD=1.14$ ), accounting for 2% of the variance in satisfaction with life ( $\eta^2=.02$ ). Reported life satisfaction among Grade 7 students also varied significantly as a function of peer support,  $F(1861) = 118.65, p<.001$ , accounting for 6% of the variance ( $\eta^2=.06$ ). Students with high peer support ( $M=3.95, SD=.58$ ) reported higher levels of satisfaction with life than students without peer support ( $M=3.19, SD=1.10$ ). Satisfaction with life also differed significantly as a function of adult support,  $F(1861) = 280.40, p<.001$ , in that students with high adult support ( $M=4.15, SD=.56$ ) reported higher levels of satisfaction with life than students with low adult support ( $M=2.99, SD=1.05$ ). About 13% of the variance in satisfaction with life was accounted for by level of adult support ( $\eta^2=.13$ ).

Table 6.

*Variations in Satisfaction with Life as a function of Sex, Victimization, Adult Support and Peer Support (Grade 7)*

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Model	756.28	15	50.42	145.73	.00***	.54
Sex	.18	1	.18	.52	.47	.00
Victimization Status (V)	11.26	1	11.26	32.55	.00***	.02
Peer Support (PS)	41.05	1	41.05	118.65	.00***	.06
Adult Support (AS)	97.01	1	97.01	280.40	.00***	.13
Sex * V	1.51	1	1.51	4.35	.04	.00
Sex * PS	.00	1	.00	.01	.92	.00
Sex * AS	.39	1	.39	1.12	.29	.00
V * PS	.04	1	.04	.11	.74	.00
V * AS	.41	1	.41	1.18	.28	.00
PS * AS	.11	1	.11	.31	.58	.00
Sex * V * PS	.36	1	.36	1.03	.31	.00
Sex * V * AS	.02	1	.02	.06	.81	.00
Sex * PS * AS	2.53	1	2.53	7.32	.01	.00
V * PS * AS	.02	1	.02	.05	.83	.00
Sex*V*PS*AS	.89	1	.89	2.57	.11	.00
Error	638.67	1846	.35			
Total	1394.95	1861				

\* $p < .008$ ; \*\*\* $p < .001$ .

N = 1862

**Sadness at Grade 7.** Sex, victimization status, adult support, peer support, and the interaction of these variables, were statistically significant in predicting student reports of sadness (Table 5),  $F(1893)=49.55, p<.001$ , accounting for 28% of the variance in self-reported sadness ( $\eta^2=.28$ ). Victimization status significantly predicted sadness,  $F(1893) = 36.94, p<.001$ , with victimized students ( $M=3.18, SD=1.14$ ) reporting greater sadness than non-victimized students ( $M=2.54, SD=.89$ ), accounting for 2% of the variance ( $\eta^2=.02$ ). A significant main effect of peer support was also found for sadness,  $F(1893) = 28.84, p<.001$ , with students without peer support ( $M=3.14, SD=1.12$ ) reporting higher levels of sadness than students with peer support ( $M=2.58, SD=.95$ ). Peer support accounted for 2% of the variance in sadness ( $\eta^2=.02$ ). Level of adult support significantly predicted sadness,  $F(1893) = 36.65, p<.001$ , with students without adult support ( $M=3.18, SD=1.15$ ) reporting higher levels of sadness than students with adult support ( $M=2.54, SD=.95$ ). Adult support accounted for 2% of the variance in sadness ( $\eta^2=.02$ ).

Table 7.

*Variations in Sadness as a function of Sex, Victimization, Adult Support and Peer Support (Grade 7)*

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Model	610.31	15	40.69	49.55	.00***	.28
Sex	.47	1	.47	.57	.45	.00
Victimization Status (V)	30.34	1	30.34	36.94	.00***	.02
Peer Support (PS)	23.69	1	23.69	28.84	.00***	.02
Adult Support (AS)	30.10	1	30.10	36.65	.00***	.02
Sex * V	2.53	1	2.53	3.08	.08	.00
Sex * PS	.14	1	.14	.17	.68	.00
Sex * AS	2.24	1	2.24	2.73	.10	.00
V * PS	2.41	1	2.41	2.94	.09	.00
V * AS	.92	1	.92	1.12	.29	.00
PS * AS	1.05	1	1.05	1.28	.26	.00
Sex * V * PS	.00	1	.00	.00	.95	.00
Sex * V * AS	1.95	1	1.95	2.37	.12	.00
Sex * PS * AS	3.26	1	3.26	3.97	.04	.00
V * PS * AS	.21	1	.21	.25	.61	.00
Sex*V*PS*AS	.59	1	.59	.72	.40	.00
Error	1542.41	1878	.82			
Total	2152.55	1893				

\* $p < .008$ ; \*\*\* $p < .001$ .

N = 1894

**Worries at Grade 7.** Sex, victimization status, adult support, peer support, and the interaction of these variables (Table 6), were significant in predicting worries  $F(1887)=38.15$ ,  $p<.001$ , accounting for 23% of the variance in self-reported worries ( $\eta^2=.23$ ). A main effect of sex was found,  $F(1887)=14.80$ ,  $p<.001$ , with girls ( $M=3.17$ ,  $SD=1.34$ ) reporting higher levels of worries than boys ( $M=2.65$ ,  $SD=1.27$ ), accounting for 1% of the variance in worries ( $\eta^2=.01$ ). Level of victimization also predicted self-reported worries,  $F(1887) = 104.88$ ,  $p<.001$ , where victimized students ( $M=3.60$ ,  $SD=1.34$ ) reported significantly more worries than non-victimized students ( $M=2.22$ ,  $SD=1.11$ ). Victimization accounted for 5% of the variance in worries ( $\eta^2=.05$ ). The main effect of peer support was not significant,  $F(1887) = 5.51$ ,  $p>.008$ . Significant main effects were not found for adult support,  $F(1887) = .13$ ,  $p>.05$ , nor peer support,  $F(1887) = 5.51$ ,  $p>.008$ .

Table 8.

*Variations in Worries as a function of Sex, Victimization, Adult Support and Peer Support (Grade 7)*

Variable	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>	$\eta^2$
Model	762.97	15	50.87	38.15	.00***	.23
Sex	19.74	1	19.74	14.80	.00***	.01
Victimization Status (V)	139.84	1	139.84	104.88	.00***	.05
Peer Support (PS)	7.35	1	7.35	5.51	.02	.00
Adult Support (AS)	.17	1	.17	.13	.723	.00
Sex * V	.55	1	.55	.41	.52	.00
Sex * PS	3.14	1	3.14	2.35	.13	.00
Sex * AS	2.33	1	2.33	1.75	.19	.00
V * PS	.00	1	.00	.00	.99	.00
V * AS	.26	1	.26	.20	.66	.00
PS * AS	4.93	1	4.93	3.70	.06	.00
Sex * V * PS	.11	1	.11	.08	.77	.00
Sex * V * AS	1.85	1	1.85	1.38	.24	.00
Sex * PS * AS	2.05	1	2.05	1.54	.22	.00
V * PS * AS	3.45	1	3.45	2.59	.11	.00
Sex*V*PS*AS	6.38	1	6.38	4.78	.03	.00
Error	2496.06	1872	1.33			
Total	3259.04	1887				

\* $p < .008$ ; \*\*\* $p < .001$ .

N = 1888



## **Discussion**

The purpose of the current study was to determine how social support from different sources (adults and peers) interact to moderate the association between peer victimization and sadness, worries, and/or satisfaction with life in grade 4 and 7 students, and whether these relationships varied by sex. The following section presents a summary and interpretations of results of the analyses that have been conducted in this study.

### **Relationship of support type and victimization to well-being outcomes**

Replicating previous findings, the present study found that both higher adult support (e.g., Baldry, 2004; Yeung & Leadbeater, 2010), and higher peer support (e.g., Cooley et al., 2015; Chang, Yuan, & Chen, 2018; Martin & Hueber, 2007) were generally associated with more positive well-being outcomes in sadness and satisfaction with life across grade 4 and grade 7, though adult support was not associated with better outcomes in worries. As expected from previous research (e.g., Yeung-Thompson & Leadbeater, 2013; Zwierzyńska et al., 2013; Hawker & Bulton, 2000), victimization was generally associated with negative outcomes across grade 4 and grade 7. Specifically, victimized students experienced lower satisfaction with life, and higher worries and sadness in comparison to non-victimized students.

For several well-being outcomes across grade level, those with high levels of both adult support and peer support experienced the most positive well-being outcomes in comparison to those with only one high-level source of support, and those with no high-level source of support. These findings speak to the additive benefit of having high levels of both adult support and peer support on well-being outcomes for students. It is evident from the main effects of adult support and peer support with well-being outcomes at both grade 4 and grade 7 that the presence of high

adult support and high peer support is widely beneficial towards the well-being outcomes of students in middle childhood.

Although the present study replicates previous findings that adult support and peer support are both associated with positive well-being outcomes, and that victimization is associated with poorer well-being outcomes, there is a lack of evidence in the present study that adult and peer support each independently moderate the relationship between victimization and well-being outcomes at grade 4 and grade 7. Although the significant main effects observed indicate that high peer support and high adult support associate together in an additive effect to benefit the well-being outcomes of students at middle-childhood, this benefit does not appear to generally associate differently for a student who is non-victimized versus a student who is victimized, or that peer support or adult support can fully compensate for the lack of presence of the other source of support. In general students with both high adult support and peer support experienced the most-positive well-being outcomes, both for those who were victimized and not-victimized.

The present study extends previous research by including strict and distinct categorizations of victimization, adult support and peer support. The analyses of the present study also included both of these social support variables independently but simultaneously in the investigation of the association of victimization and support to well-being outcomes. This simultaneous inclusion may have contributed to limited findings in the moderation of the victimization-wellbeing relationship by sources of support, due to the moderate correlation between adult support and peer support, and the possibility of variance explained in the well-being outcome being shared significantly between adult support and peer support.

Higher worries, but not satisfaction with life or sadness, was found to be a well-being outcome that was more highly associated with girls at middle childhood. One possible or partial explanation for sex differences is the contrast in the type of victimization that children of different sex are experiencing. For example, boys are more likely to be physically victimized by their peers than girls, whereas girls are more likely to be relationally victimized by their peers (Crick & Nelson, 2001). In a review of sex differences in emotional and behavioural development, it has been proposed that girls' focus on relationships may contribute to their worries about social approval, abandonment, and friendship status relative to boys (Rose & Rudolph, 2006), which may partly explain sex differences in worries. For example, adolescent girls exhibit greater concerns regarding peer evaluation (e.g., Rudolph & Conley, 2005), and girls think about and distress more about social aggression than boys (Paquette & Underwood, 1999). Efforts to improve the well-being outcomes of children should consider taking sex differences into account, particularly for worries at grade 7.

Although high adult support was associated with more positive outcomes regarding satisfaction with life and sadness across grade level, it was not found to be associated with reduced worries at either grade 4 or grade 7. It is possible that the mechanisms through which adults at home or school may support students, such as intervention in victimization scenarios by teachers as presented by Yeung and Leadbeater (2010), may not reduce the specific types of peer-related social worries that students reported on in the present study. An exploration of the association between adult support and worries in diverse contexts or themes would help solidify the understanding of the relationship between these variables at middle childhood. Contrary to hypotheses, it also does not appear that adult support explained more of the variance in well-being outcomes at grade 4 than at grade 7 due to a hypothesized shift in developmental influence

away from parents and towards peers (e.g., Nickerson & Nagle, 2004). However, comparative analyses between grade levels must be done in order to decipher whether observed differences in explained variance might be significantly different. Future studies may be able to include grade as a predictor, or to explore this question through longitudinal analyses.

The results of the present study do not support the hypothesis that the benefits of adult and peer support are more evident for victimized than non-victimized students. Rather, the lack of observed interactions with victimization suggests that adult and peer support serve as protective factors for both victimized and non-victimized students, and does not operate significantly differently depending upon the level victimization status or sex of the student. The results also suggest that adult support and peer support do not separately moderate the relationship between victimization and satisfaction with life, sadness, and worries. It is possible that support items related specifically to victimization such as “I have an adult that can help me when I’m bullied by a peer” or “when I’m worried about being bullied, my friends/peers help me feel better” may elucidate self-reporting of victimization-specific support that may uniquely predict well-being outcomes for victimized students, unlike the broader social connectedness related support items utilized in the present study.

### **Strengths and Limitations**

The interpretation of the results presented must be taken with consideration for the limitations of the present study. One limitation is that the predictor variables of victimization, adult support, and peer support have been categorized into “low” and “high”, in order to capture the experiences of students who are frequently bullied, and severely lack adult and/or peer support. The group of students that occupy the middle-ground in scores on victimization, adult support, or peer support were not included in the analyses. In future research, it would be useful to also

consider students who are occasionally bullied (versus never victimized or victimized every month or more) in order to provide a fuller understanding of the impact of bullying as a function of its frequency.

Still, the large, population-level sample of the present study allowed for the identification of participants who are true victims of peer abuse, a small but important subgroup of students who experience regular and ongoing victimization from peers. Similarly, with regard to the categorization of participants in terms of available peer and adult support, the large sample made it possible to identify students who were acutely lacking positive support from adults and/or peers. Use of such an extreme group analysis is advantageous because it allows for the determination of how these associations may operate for those who may be experiencing the most severe detriments aligned with victimization or lack of support, and that these findings could inform efforts to aid these students. The stringency in categorization in these assets would not be possible with a smaller dataset. Thus, the population-level sample size of this study allowed for elucidation of questions regarding students who experience severe lack of support as well as victimization.

Previous studies in this area have lacked representative, population-level samples of schoolchildren. A strength of the present study is that it draws from thousands of students from hundreds of schools throughout the province of British Columbia, which more likely captures the diversity of experiences of schoolchildren than previous studies in this area.

Another strength of the present study is in the demonstrated reliability of the measures employed, measures that have been used previously in other studies (e.g., Schonert-Reichl et al., 2013). Although the internal consistency of all composite measures computed for the present study was in an acceptable range ( $>.70$ ), one limitation of the current study is the small number of items utilized to capture the constructs of bullying victimization (4 items, one for each type of bullying),

worries (3 items), sadness (3 items), and life satisfaction (5 items). It is possible that a larger number of items for each of these psychological constructs would allow for greater validity in capturing the range of possible types and contexts in which students may experience bullying, worries, sadness, and life satisfaction.

The limitation of unequal sample/cell sizes is concerning because unequal sample sizes in categorizations may cause computations and interpretations of the data to differ, depending upon the computational method chosen (Shaw & Mitchell-Olds, 1993). There is debate regarding the choice of calculation method for the sum of squares utilized in ANOVA (e.g., Langsrud, 2003). It has been argued Type II rather than Type III sum of squares be utilized in unequal cell size analyses, and vice versa (Langsrud, 2003). However, because the primary questions of this study involved the exploration of interactions, more so than main effects, Type III sum of squares were considered preferable since Type II analysis models are based on an underlying assumption of no interactions (Langsrud, 2003; Shaw & Mitchell-Olds, 1993). Although Type II and Type III tests have been found to produce similar results, it is worth noting that the Type III sum of squares was chosen in this analysis, due to the suggestion that the Type III method utilizes unweighted marginal means that are appropriate and more interpretable when interactions are in question, even if the number of observations per cell varies (Shaw & Mitchell-Olds, 1993). Further exploration in this area, particularly with this dataset which will grow with time, may be able to investigate these research questions with greater statistical power with the number of students in each group increasing over time as the total sample size increases. Longitudinal exploration of these questions may also be possible with larger sample sizes, as the cells with small samples will likely increase as the total sample size of the data increases, improving statistical power.

## **Impacts and Conclusion**

The present study utilized a population-level self-report dataset in an effort to provide insight into how sex, adult support and peer support may interact to moderate the links between victimization with satisfaction with life, sadness, and worries, especially for those who are victimized in middle childhood. These results present some of the distinct additive associations between peer support and adult support with well-being outcomes.

This study reinforces the importance of addressing victimization in schools, and that enhancing peer and adult support experienced by students may buffer against harmful well-being outcomes for students, regardless of victimization status. The strong main effects of adult support and peer support on well-being outcomes suggest that social support appears to widely benefit students in middle childhood on well-being outcomes. The lack of interactions between adult and peer support with victimization status suggest that high levels of support does not operate differently for students who are victimized versus those who are not victimized. Rather, they benefit all students, regardless of victimization. The additive associations of adult and peer support with positive well-being outcomes also suggest that school-based interventions and teacher training efforts to improve well-being outcomes for students would benefit from promoting a multi-faceted approach that fosters both adult support relationships, as well as peer support relationships, as creating a sense of perceived global support for students has been associated with the best outcomes for students in middle childhood.

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## Appendices

### Appendix A: Passive Consent Letters

Human Early Learning Partnership (HELP)  
University of British Columbia  
440-2206 East Mall Vancouver  
BC Canada V6T 1Z3  
[www.earlylearning.ubc.ca](http://www.earlylearning.ubc.ca)



MIDDLE YEARS  
DEVELOPMENT  
INSTRUMENT

SCHOOL BOARD OR LOCAL  
SPONSORING AGENCY  
LETTERHEAD

#### Understanding Middle Childhood: The Middle Years Development Instrument

##### Parent/Guardian Information Letter

**Principal Investigator:** Kimberly A. Schonert-Reichl, Ph.D., Professor and Director, Human Early Learning Partnership, School of Population and Public Health, and Faculty of Education, UBC (Telephone: 604-822-2215)  
**Co-Investigator:** Martin Guhn, Ph.D., Assistant Professor, Human Early Learning Partnership, School of Population and Public Health, UBC (Telephone: 604-827-5784)  
**Project Contact:** Maddison Spenrath, Implementation Manager, Human Early Learning Partnership, UBC (Telephone: 604-827-4050)  
**Date:** October 2017

Dear parent(s)/guardian(s)/caregiver(s),

We invite your child to take part in a study aimed at gathering important information about the health and well-being of 4<sup>th</sup> and 7<sup>th</sup> grade children inside and outside of school. Specifically, the **Middle Years Development Instrument (MDI)** is an online survey that students complete in schools in November/December. The survey takes about 1-2 class periods and is supervised by school staff. This study is led by researchers at the Human Early Learning Partnership (HELP) at the University of British Columbia (UBC), and is sponsored by your school or school board, the United Way of the Lower Mainland, and the Government of BC.

##### What is the purpose of the study?

The purpose of this study is to better understand and measure areas of middle child development that contribute to children's well-being, health, and school success by asking children themselves about their thoughts, feelings, and experiences in school and in the community. The MDI was developed at UBC in collaboration with educators, parents, and students, and has been used in Canadian schools since 2009. Researchers, schools, and governments use the study results to inform programs and services for children.

The survey includes questions about: 1) social and emotional development, such as self-esteem, optimism, happiness, and empathy; 2) feelings of connectedness to school, family, friends, and communities; 3) school experiences; 4) physical health and well-being; and 5) time use during the after school hours, as well as children's wishes for after school time. If you'd like to learn more about the MDI please visit [www.earlylearning.ubc.ca/mdj](http://www.earlylearning.ubc.ca/mdj).

##### Participation is voluntary

It is your choice whether your child takes part. Your child can also choose to not take part. The choice will not affect your child's standing in his/her classroom or school, and it will not affect any services that your family receives from the school or school board. *If you DO NOT wish your child to take part, please return the attached withdrawal form to your child's teacher within 4 weeks upon receiving this letter.* If your child doesn't take part, he/she will work on an activity that is related to his/her regular school work.

##### What will happen?

To get started, the school will give HELP information about your child including her/his name, Personal Education Number (PEN), date of birth, gender, and postal code. Your child's name is only used so that she/he can log into the survey. It is removed from survey responses once the survey is complete. School staff are not able to see your child's answers at any time during the survey or afterward.

There are some questions on the survey that ask your child about any problems that he/she may be having. The survey has a place where your child can ask for help. If your child asks for help, the teacher and principal will be sent an email and they will follow school procedures for making sure your child gets help.

### How is my child's privacy protected?

Your child cannot be identified in this study by name, and your child's answers will not be available to you or any school or school board staff. This is to ensure that children's answers are **private and confidential**. No information is added to your child's school record from the study. If MDI information is used in research publications or in public documents, your child and your child's school will not be identified in any way.

### How will the MDI data be used and stored?

Your child's date of birth, Personal Education Number (PEN), and postal code are personal information that is stored separately from your child's answers to the survey. This is to protect your child's privacy. Your child's personal information is kept in a secure research environment at UBC, to be used only for approved linkage and research projects. HELP is responsible for keeping all MDI study data safe and only approves access to data for research **under provincial privacy laws**. Researchers who receive permission to use the MDI data for research or statistical purposes will be provided data that cannot be connected to any individual student.

The data from the study may be linked at the individual level with other data to learn about the factors that influence children's well-being, health, and school success. Other data may include education and health information such as the Early Development Instrument (EDI), which is a survey on children in kindergarten. The data that are linked **can only be used for research or statistical purposes by HELP approved researchers, under an approved Research Agreement**. For concerns related to the privacy of your child's survey data, please contact HELP's Privacy Officer at [privacy@help.ubc.ca](mailto:privacy@help.ubc.ca).

### Study Results

Your child's answers will be combined with those from other students in his/her school and community to be analyzed. Study results are reported only at the group level, for example: school or school board, ~~neighbourhood~~, and province. School reports are shared with districts and schools, and are not shared publicly. The MDI study will not be used to rank schools, students, or classes in any way. HELP researchers create ~~neighbourhood~~ maps and community reports of the survey results that are public: [www.earlylearning.ubc.ca/maps/mdi](http://www.earlylearning.ubc.ca/maps/mdi).

Guided by our Aboriginal Steering Committee, HELP respects the First Nations principles of OCAP® (Ownership, Control, Access, and Possession) or other community based ethics codes, with regard to MDI data for First Nations, Métis and Inuit children. This means that Aboriginal Nations and organizations have access to group-level data for the First Nations, Métis and Inuit children in their area, to support Aboriginal self-determination and inform program and policy creation. As part of this commitment, HELP never publically reports Aboriginal MDI data or uses it for comparison with other data. HELP has established a clear process for sharing MDI data for First Nations, Métis and Inuit children. For more information, please contact Kimberley Bayer, the HELP Aboriginal Community Liaison Coordinator at [aboriginal.liaison@help.ubc.ca](mailto:aboriginal.liaison@help.ubc.ca).

### How will your school and community benefit?

The MDI study results give educators, program planners, and community members access to information about the lives of children through the voices of the children themselves. The MDI results can show where there are similarities and differences in the number of children who are healthy and feel supported by schools and communities. Your school and community can use the results to improve the lives of children. We do not think that there is anything in this study that could harm your child or be bad for you or your child.

### Where can I get more information on the study?

For more information please visit HELP's website at [www.earlylearning.ubc.ca/mdi](http://www.earlylearning.ubc.ca/mdi). If you have any questions or concerns about your child's participation, please contact Maddison Spennath, Project Contact, via email at [maddison.spennath@ubc.ca](mailto:maddison.spennath@ubc.ca) or by phone at 604-827-4050. If you do not wish your child to complete the survey, please sign the attached withdrawal form and return it to your child's teacher.



If you have any concerns about your child's rights as a research participant taking part in this project, contact the Research Subject Line in the UBC Office of Research Services at the University of British Columbia at 604-822-8598, or if long distance, e-mail [RSIL@ors.ubc.ca](mailto:RSIL@ors.ubc.ca) or call toll free 1-877-822-8598. You can also contact the principal investigator at the number or email provided below.

Yours sincerely,

\_\_\_\_\_  
Name, School Board MDI Contact  
Title within School Board  
Telephone: # Email:-----

\_\_\_\_\_  
Professor Kimberly A. Schonert-Reichl, Ph.D.  
Director, Human Early Learning Partnership  
University of British Columbia  
Telephone: 604-822-2215

✂-----✂-----✂

**If you want to withdraw your child, please, sign and return this section to your child's teacher.**

Please return this form to the classroom teacher by [    DATE    ] if you **do NOT** want your child to participate.

☐ I do **not** consent for my child [NAME] \_\_\_\_\_ to participate in the Middle Years Development Instrument (MDI) survey taking place in November

Parent Name: \_\_\_\_\_

Date: \_\_\_\_\_

School: \_\_\_\_\_

Teacher: \_\_\_\_\_

## Appendix B: Student Assent Script

### STUDENT ASSENT SCRIPT

Please read the text below aloud to your students before starting the survey!

#### Understanding Our Lives: The Middle Years Development Instrument Survey

We would like to learn more about the lives of elementary school children in Canada, and the best way to do that is to ask YOU about your life in school and outside of school. It has been a long time since we were your age, so we need you to be our "teachers", so that we can learn more about the lives of children today in Canada. To learn about children your age, we would like to ask you some questions about how you think and feel about things in your life and about what you like to do.

Here are some things to know before getting started:

1. This is **not a test!** There are **no right or wrong answers**. Some people think or feel one thing and other people think or feel something else. We want to know what *you* think and how *you* feel. Your answers are VERY IMPORTANT and will help improve activities and programs for children your age.
2. It is **your choice** to fill out the survey. You can choose not to participate at any time before, during or after you complete the survey and you will not get in trouble or lose marks. You can withdraw from the survey at any time by clicking on the "Withdraw from this survey" button on the bottom of every page.
3. It is important for you to know that ALL OF YOUR ANSWERS that you put in this survey will be **confidential (private)** and will **not** be shared with your teacher, principal, parents, or your friends.

Please answer each question the best you can.

Thank you for your help!

HUMAN  
EARLY LEARNING  
PARTNERSHIP

Start Survey

Withdraw from this survey

Instruct students to click on  
"Start Survey" to begin.

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## Appendix C: Student Assent Check Form (Annotated)

3% complete

**Quick review before you start (check the boxes to confirm):**

Students can click the check boxes to confirm they understand the Assent Script.

☐ I understand this survey does not count for school marks

☐ I understand I can stop doing the survey at any time


☐ I understand this is confidential

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Please read the Demographic Section of the survey and the instructions with sample questions aloud to your students. After completing the first section they should be able to continue the survey on their own, although some might still need your assistance. You know your students best, and if you are concerned about their reading level, we suggest you read all of the questions aloud to your students.

If your students have headphones, they can click on this icon to hear the question read aloud.



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## Appendix D: Electronic MDI Grade 4 Survey 2017-2018 (Annotated)

8% complete

Aboriginal people in Canada are sometimes called First Nations, Native Indian, Inuit, or Métis.  
All of your family members might not be Aboriginal but maybe some of them are.  
Sometimes Aboriginal people only have one parent or grandparent who is Aboriginal.  
We want to know about YOU.  
Are you Aboriginal?  
If so, please answer YES.

5. Are you Aboriginal?

No Yes Part

If you answered Yes or Part, check:

☐ Inuit  
☐ Métis  
☒ First Nations

Please identify:

6. What is the first language you learned at home? (You can check more than one if you need to.)

☒ Aboriginal Language  
☐ English  
☐ Cantonese  
☐ Filipino/Tagalog  
☐ French  
☐ Hindi  
☒ Japanese  
☐ Korean  
☐ Mandarin  
☐ Punjabi  
☐ Spanish  
☐ Vietnamese  
☒ Other

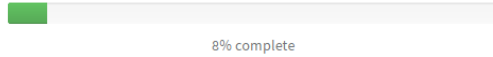
Which Aboriginal language?

Other:

This text box will appear if a student selects "First Nations." Refer to the list at the back of this guide for common answers to this question if a student asks for assistance. For example: "Cree" or "Halq'emeyhem".

If a student selects "Aboriginal Language" or "Other", they can type in the language. Refer to the list at the back of this guide for common answers to this question if a student asks for assistance.

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Aboriginal people in Canada are sometimes called First Nations, Native Indian, Inuit, or Métis.  
All of your family members might not be Aboriginal but maybe some of them are.  
Sometimes Aboriginal people only have one parent or grandparent who is Aboriginal.  
We want to know about YOU.  
Are you Aboriginal?  
If so, please answer YES.

5. Are you Aboriginal?

No Yes Part

If you answered Yes or Part, check:

- ☐ Inuit  
☐ Métis  
☒ First Nations

Please identify:

This text box will appear if a student selects "First Nations." Refer to the list at the back of this guide for common answers to this question if a student asks for assistance. For example: "Cree" or "Halq'emeyhem".

6. What is the first language you learned at home? (You can check more than one if you need to.)

- ☒ Aboriginal Language  
☐ English  
☐ Cantonese  
☐ Filipino/Tagalog  
☐ French  
☐ Hindi  
☒ Japanese  
☐ Korean  
☐ Mandarin  
☐ Punjabi  
☐ Spanish  
☐ Vietnamese  
☒ Other

If a student selects "Aboriginal Language" or "Other", they can type in the language. Refer to the list at the back of this guide for common answers to this question if a student asks for assistance.

Which Aboriginal language?

Other:

7. Which language(s) do you speak at home?  
(You can check more than one if you need to.)

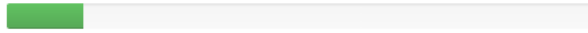
- ☐ Aboriginal Language
- ☐ English
- ☐ Cantonese
- ☐ Filipino/Tagalog
- ☐ French
- ☐ Hindi
- ☐ Japanese
- ☐ Korean
- ☐ Mandarin
- ☐ Punjabi
- ☐ Spanish
- ☐ Vietnamese
- ☐ Other

8. How difficult is it for you to read in English?

Very hard    Hard    Easy    Very easy

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13% complete

## INSTRUCTIONS

If you do not understand a question, please raise your hand and **ask for help**.

Make sure you **understand** the question and the answer options **before** you answer.

Here are sample questions for practice.

These questions ask you how much you agree or disagree with the statement.

Please read the **INSTRUCTIONS** and sample questions aloud to make sure everybody understands.

I don't like to eat pizza.

Disagree  
a lot

Disagree  
a little

Don't agree or  
disagree

Agree a  
little

Agree  
a lot

I like to eat carrots.

Disagree  
a lot

Disagree  
a little

Don't agree or  
disagree

Agree a  
little

Agree  
a lot

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## Lets start now!

Remember, there are no right or wrong answers!

Students can complete the remaining questions on their own and can ask for assistance as needed. You can read all the questions aloud if you are concerned with the reading level of your students.

1. I feel sorry for other kids who don't have the things that I have.

Disagree  
a lot

Disagree  
a little

Don't agree or  
disagree

Agree a  
little

Agree  
a lot

2. When I see someone being treated mean it bothers me.

Disagree  
a lot

Disagree  
a little

Don't agree or  
disagree

Agree a  
little

Agree  
a lot

3. I am a person who cares about the feelings of others.

Disagree  
a lot

Disagree  
a little

Don't agree or  
disagree

Agree a  
little

Agree  
a lot

4. I have more good times than bad times.

Disagree  
a lot

Disagree  
a little

Don't agree or  
disagree

Agree a  
little

Agree  
a lot

5. I believe more good things than bad things will happen to me.

Disagree  
a lot

Disagree  
a little

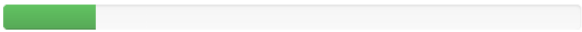
Don't agree or  
disagree

Agree a  
little

Agree  
a lot

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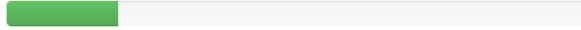
Next >



16% complete

6. I start most days thinking I will have a good day.	Disagree a lot	Disagree a little	Don't agree or disagree	Agree a little	Agree a lot
7. In general, I like being the way I am.	Disagree a lot	Disagree a little	Don't agree or disagree	Agree a little	Agree a lot
8. Overall, I have a lot to be proud of.	Disagree a lot	Disagree a little	Don't agree or disagree	Agree a little	Agree a lot
9. A lot of things about me are good.	Disagree a lot	Disagree a little	Don't agree or disagree	Agree a little	Agree a lot





19% complete

10. I feel unhappy a lot of the time.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
11. I feel upset about things.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
12. I feel that I do things wrong a lot.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
13. I worry about what other kids might be saying about me.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
14. I worry a lot that other people might not like me.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
15. I worry about being teased.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>

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22% complete

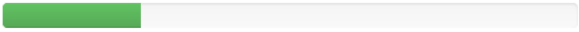
16. In most ways my life is close to the way I would want it to be.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
17. The things in my life are excellent.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
18. I am happy with my life.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
19. So far I have gotten the important things I want in life.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
20. If I could live my life over, I would have it the same way.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>

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24% complete

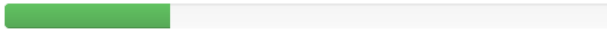
Since the start of this school year, how often did you do this?

21. I cheered someone up who was feeling sad.	Not at all this school year	Once or a few times	About every month	About every week	Many times a week
22. I helped someone who was being picked on.	Not at all this school year	Once or a few times	About every month	About every week	Many times a week
23. I helped someone who was hurt.	Not at all this school year	Once or a few times	About every month	About every week	Many times a week

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27% complete

24. Are there any adults who are **IMPORTANT TO YOU** at your **school**?

No Yes

☐ ☐

If you answered 'Yes' to the question above, we would like you to put in the initial (the first letter in the person's first OR last name) for ALL of the adults who are **important to you** at your **school**. For example, if your teacher's name is Mr. Reed, you can just type an 'R' in the space, or if your supervision aide's name is Jane, you can just type in the letter 'J' in the space. You do not have to fill in all spaces.

Person 1

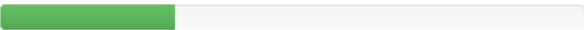
Person 2

Person 3

Person 4

Person 5

Person 6



30% complete

How true is each statement for you?

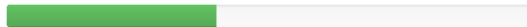
At my school, there is a teacher or another adult...

	Not at all true	A little true	Pretty much true	Very much true
25. ... who really cares about me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. ... who believes that I will be a success.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. ... who listens to me when I have something to say.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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40% complete

The next four questions are about your parents (or guardians) or other adults who live in your home. Parents can be biological parents, adoptive parents, step-parents, same-sex parents, or foster parents.

In my home, there is a parent or another adult...

28. ... who believes that I will be a success.

Not at all  
true

A little  
true

Pretty much  
true

Very much  
true

29. ... who listens to me when I have something to say.

Not at all  
true

A little  
true

Pretty much  
true

Very much  
true

30. ... who I can talk to about my problems.

Not at all  
true

A little  
true

Pretty much  
true

Very much  
true

31. I care about what my parents (or guardians) think of me.

Not at all  
true

A little  
true

Pretty much  
true

Very much  
true

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35% complete

In my neighbourhood/community (not from your school or family), there is an adult...

32. ... who really cares about me.

Not at all true

A little true

Pretty much true

Very much true

33. ... who believes that I will be a success.

Not at all true

A little true

Pretty much true

Very much true

34. ... who listens to me when I have something to say.

Not at all true

A little true

Pretty much true

Very much true

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38% complete

35. Are there places in your neighbourhood/community that provide programs for kids your age, like sports (for example, swimming, soccer, hockey), art, dance, music classes, and other clubs and activities?

No

Yes

Don't know

36. Are there safe places in your neighbourhood/community where you feel comfortable to hang out with friends, like playgrounds, parks, or community centres?

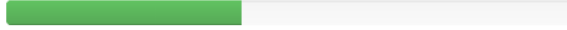
No

Yes

Don't know

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41% complete

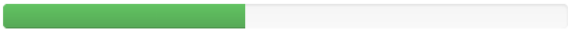
Please answer the following questions about you and your friend(s) and your school.

37. I feel part of a group of friends that do things together.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
38. I feel that I usually fit in with other kids around me.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
39. When I am with other kids my age, I feel I belong.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
40. I have at least one really good friend I can talk to when something is bothering me.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
41. I have a friend I can tell everything to.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
42. There is somebody my age who really understands me.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>

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43% complete

43. I am certain I can learn the skills taught in school this year.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
44. If I have enough time, I can do a good job on all my school work.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
45. Even if the work in school is hard, I can learn it.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>

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46% complete

46. Teachers and students treat each other with respect in this school.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
47. People care about each other in this school.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
48. Students in this school help each other, even if they are not friends.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
49. I feel like I belong in this school.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
50. I feel like I am important to this school.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
51. When I grow up, I have goals and plans for the future.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>

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49% complete

**52. How important is it to you to do the following in school:**

	Not important at all	Not very important	Somewhat important	Very important
a) Make friends?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) Get good grades?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) Learn new things?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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51% complete

**Important definition: Bully** - There are a lot of different ways to bully someone, but a bully has some advantage (stronger, more popular, or something else), wants to hurt the other person (it's not an accident), and does so repeatedly (over and over again) and unfairly. Sometimes a group of students will bully another student.

The next four questions might make you feel uncomfortable, but it is important for us to know. Please answer the questions honestly.

This school year, how often have you been bullied by other students in the following ways?

53. **Physical bullying** (for example, someone hit, shoved, or kicked you, spat at you, beat you up, or damaged or took your things without permission).

Not at all  
this school  
year

Once or a  
few  
times

About  
every  
month

About  
every  
week

Many  
times a  
week

54. **Verbal bullying** (for example, someone called you names, teased, embarrassed, threatened you, or made you do things you didn't want to do).

Not at all  
this school  
year

Once or a  
few  
times

About  
every  
month

About  
every  
week

Many  
times a  
week

55. **Social bullying** (for example, someone left you out, excluded you, gossiped and spread rumors about you, or made you look foolish).

Not at all  
this school  
year

Once or a  
few  
times

About  
every  
month

About  
every  
week

Many  
times a  
week

56. **Cyberbullying** (for example, someone used the computer or text messages to exclude, threaten, embarrass you, or to hurt your feelings).

Not at all  
this school  
year

Once or a  
few  
times

About  
every  
month

About  
every  
week

Many  
times a  
week

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54% complete

The next questions ask about your physical health. Sometimes children your age may feel that these kinds of questions are uncomfortable to answer. Remember you are helping us to learn more about the health of children your age in Canada.

57. In general, how would you describe your health?

Poor

Fair

Good

Excellent

58. Do you have a physical or health condition that keeps you from doing some things other kids your age do? (For example, school activities, sports, or getting together with friends).

No

Yes, a physical disability (for example, deafness, cerebral palsy, wheelchair, or something else)

Yes, a long term illness (for example, diabetes, asthma, or something else)

Yes, overweight

Yes, something else

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57% complete

59. How do you rate your body weight?

Very underweight

Slightly underweight

About the right weight

Slightly overweight

Very overweight

60. How often do you like the way you look?

Never

Hardly ever

Sometimes

Often

Always

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59% complete

61. How often do you eat breakfast?

Never	Once a week	2 times a week	3 times a week	4 times a week	5 times a week	6 times a week	Every day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

62. How often do your parents or other adult family members eat meals with you?

Never	Once a week	2 times a week	3 times a week	4 times a week	5 times a week	6 times a week	Every day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

63. How often do you eat food like pop, candy, potato chips, or something else?

Never	Once a week	2 times a week	3 times a week	4 times a week	5 times a week	6 times a week	Every day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

64. How often do you get a good night's sleep?

Never	Once a week	2 times a week	3 times a week	4 times a week	5 times a week	6 times a week	Every day
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

65. What time do you usually go to bed during the weekdays?

Before 9:00 pm	Between 9:00pm and 10:00pm	Between 10:00pm and 11:00pm	Between 11:00pm and midnight	After 12:00am/midnight
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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This point in the survey is a natural place to break

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62% complete

### ABOUT MY AFTER SCHOOL TIME

66. On school days, who are you usually with for most of the time from after school to dinner time (about 3 pm to 6 pm)?  
(Please check *all* of the people you are with after school.)

- ☐ By myself
- ☐ Friend(s) about my age
- ☐ Mother (or stepmother, foster mother)
- ☐ Father (or stepfather, foster father)
- ☒ Younger brothers/sisters
- ☐ Older brothers/sisters
- ☐ Other adult(s) (for example, grandparent, aunt, uncle, coach, babysitter)
- ☐ Other

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65% complete

67. How many days a week do you go to these places from after school to dinner time (about 3 pm to 6 pm)?

	Never	Once a week	Twice a week	3 times a week	4 times a week	5 times a week (every day)
a) I go home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) I stay at school to participate in after school activities (for example, sports, tutoring, clubs).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) I go to an after school program/daycare (in my school or someplace else).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) I go to a friend's house.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) I go to a park, playground, or community centre.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) I hang out at the mall or stores.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
g) I go someplace else, for example, a family member's home, or other places.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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**Suggested clarification:** “These questions are trying to ask you what you do during a normal week. If last week was different than normal – maybe you were sick or couldn’t go to your regular activities – please answer the questions thinking of the most recent typical week for yourself.”

The next questions are about activities that are organized. That is, the questions are about activities that are planned and supervised by a teacher, instructor, adult, coach or volunteer.

We would like to know what you did after school last week.

68. During last week from after school to dinner time (about 3 to 6 pm), how many days did you participate in:

- |   | Never                 | Once a week           | Twice a week          | 3 times a week        | 4 times a week        | 5 times a week (every day) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|----------------------------|
| a) Educational lessons or activities (for example, tutoring, math, language school, or something else)?                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| b) Art or music lessons (for example, drawing, painting, playing a musical instrument, or something else)?                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| c) Youth organizations (for example, Scouts, Girl Guides, Boys and Girls Clubs, After School Care, or something else)?          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| d) Individual sports with a coach or instructor (for example, swimming, dance, gymnastics, tennis, skating, or something else)? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |
| e) Team sports with a coach or instructor (for example, basketball, hockey, soccer, football, or something else)?               | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/>      |

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70% complete

The next questions ask you about other activities that you might do after school. That is, these questions are about activities that are not planned and usually not supervised by a teacher, instructor, adult, coach, or volunteer.

69. During last week from after school to dinner time (about 3 pm to 6 pm), how much time did you spend doing the following activities on a normal day?

	I did not do this activity	Less than 30 minutes	30 minutes to 1 hour	1-2 hours	2 or more hours
a) ... do sports and/or exercise for fun (for example, shooting hoops, swimming, yoga, dancing, or something else)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
b) ... do homework?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
c) ... watch TV, Netflix, Youtube, streaming videos, or something else?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
d) ... play video or computer games (for example, Play Station, Wii, Xbox, multiuser online games, or something else)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
e) ... read for fun?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
f) ... practice a musical instrument (for example, drums, clarinet, violin, or something else)?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



g) ... do arts & crafts (for example, painting, drawing, or something else)?	I did not do this activity	Less than 30 minutes	30 minutes to 1 hour	1-2 hours	2 or more hours
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
h) ... hang out with friends in person?	I did not do this activity	Less than 30 minutes	30 minutes to 1 hour	1-2 hours	2 or more hours
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
i) ... hang out with friends on the phone, tablet or computer?	I did not do this activity	Less than 30 minutes	30 minutes to 1 hour	1-2 hours	2 or more hours
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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73% complete

70. Think about what you want to do on SCHOOL DAYS from after school to dinner time (about 3 pm to 6 pm).

☐ I am already doing the activities I want to be doing.

☒ I wish I could do additional activities.

Please list one activity you wish you could do:

Where would you like this activity to be?

- ☐ School
- ☐ Home
- ☐ Park or playground
- ☐ Community centre
- ☐ Other

If a student selects that they wish to do additional activities, they can list an activity and where they would like it to be.

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76% complete

**71. What stops you from participating in the activities that you want to participate in after school? (Check all of the things that stop you.)**

- ☐ Nothing stops me.
- ☐ I have to go straight home after school.
- ☐ It is too difficult to get there.
- ☐ The activity that I want is not offered.
- ☐ The schedule does not fit the times that I can attend.
- ☐ It's not safe for me to go.
- ☐ I have too much homework to do.
- ☐ My parents do not approve.
- ☐ It costs too much.
- ☐ I need to take care of brothers or sisters or do other things at home.
- ☐ I am afraid I will not be good enough in that activity.
- ☐ I'm too busy.
- ☐ I don't know what is available.
- ☐ None of my friends are interested or want to go.
- ☐ Other

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97% complete

These questions ask you how much you agree or disagree with the statement.

Remember, there are no right or wrong answers.

72. When I'm sad, I can usually start doing something that will make me feel better.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
73. After I'm interrupted or distracted, I can easily continue working where I left off.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
74. I can calm myself down when I'm excited or upset.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>
75. If something isn't going according to my plans, I change my actions to try and reach my goal.	Disagree a lot <input type="radio"/>	Disagree a little <input type="radio"/>	Don't agree or disagree <input type="radio"/>	Agree a little <input type="radio"/>	Agree a lot <input type="radio"/>

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100% complete

76. When I have a serious disagreement with someone, I can talk calmly about it without losing control.

Disagree a lot

Disagree a little

Don't agree or disagree

Agree a little

Agree a lot

77. I work carefully when I know something will be tricky.

Disagree a lot

Disagree a little

Don't agree or disagree

Agree a little

Agree a lot

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Finish Survey

Withdraw from this survey

Students click to finish the survey and view the Student Help Page.

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