

PEER VICTIMIZATION IN AFFLUENT
COMMUNITIES AND THE ROLE OF
PARENTAL ATTACHMENT

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PARENTAL ATTACHMENT

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Abstract: Peer victimization affects up to 1 out of 3 students in the U.S. Research shows those exposed to peer victimization to be at a greater risk for a host of negative physical and psychological outcomes. Although internalizing problems are commonly conceptualized as outcomes of peer victimization, less is known about whether internalizing problems (e.g., depressive symptoms) may also pose as risk factors making youth vulnerable to bullying. The current study examined longitudinal associations between peer victimization and depressive symptoms during middle school, comparing three conceptual models to capture this relation: 1) concurrent model, 2) peer victimization-driven model, 3) depressive symptoms-driven model, and 4) bidirectional model. The study further evaluated the long-term outcomes of peer victimization in early adulthood, and the potential protective role of parental attachment in protecting against the negative sequelae associated with peer victimization. The study examined these associations among affluent youth, a population often underrepresented in literature despite being at a high risk for internalizing disorders as well as in-school bullying. Overall, results of the current study support a depressive symptoms-driven model of peer victimization, and suggest that being male, depressive symptoms, and poor maternal attachment pose as risk factors for peer victimization with implications for poor life satisfaction in adulthood. Findings highlight the importance of early identification of the identified risk factors as well as intervention among affluent youth to interrupt this negative trajectory.

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CHAPTER I

INTRODUCTION

Peer victimization is a major public health concern impacting 25% to 35% of students in the U.S. (Gladden et al., 2014). The potential negative impact of bullying is far-reaching and has implications across physical, psychological, behavioral, social-emotional, and academic domains (Hong & Espelage, 2012). Children and adolescents exposed to peer victimization, often referred to as bullying, often have accompanying and long-term symptoms of anxiety, depression, low self-esteem, and other adjustment difficulties (Hawker & Boulton, 2000; Reijntjes et al., 2010). However, it is not clear in the literature whether internalizing symptoms are exclusively outcomes of peer victimization or whether they may also be predictors of peer victimization. In fact, some youth find themselves in an adverse cycle of bullying where low self-esteem and depression makes them “easy targets” for those engaging in bullying behavior.

Victimization may exacerbate low self-esteem and self-blame, which in turn may lead to isolation and psychological difficulties. These outcomes then put the youth at an increased risk for further victimization (Kaltiala-Heino et al., 2010; Snyder et al., 2003).

Research studies examining the directionality between peer victimization and internalizing symptoms are limited, as the majority of studies focus on a single direction of effect (i.e., either the impact of peer victimization on internalizing symptoms or vice

versa). Moreover, studies examining both directions have yielded inconsistent results, with some supporting bidirectionality or cross-lagged associations in both directions, and others only finding support for one direction or the other (Lester et al., 2012; Sentse et al., 2017). Additionally, prior research has typically examined overt types of bullying with less emphasis on relational forms. Thus, these gaps in the literature warrants additional studies examining the longitudinal associations between peer victimization and internalizing symptoms.

Further, given the potential risks associated with peer victimization, it is important to determine whether there may be environmental variables that may protect youth against the negative effects of peer victimization. For example, positive parental behaviors, such as warmth and support, have consistently been found to buffer the negative experience of bullying for children and adolescents (Rivara & Le Menstrel, 2016). However, less is known about the protective role of parental attachment, that is, the extent to which youth report feelings of trust, closeness, and good communication in the relationship with their parent. Preliminary evidence suggests that those with secure attachment styles experience relatively less victimization (Dykas et al., 2008; Schneider et al., 2001). Thus, it remains to be known whether, among those who experience peer victimization, parental attachment may buffer or protect against the negative sequelae associated with peer victimization.

The current study examined the longitudinal association between peer victimization and internalizing symptoms during middle school, the long-term outcomes of peer victimization in early adulthood, and the role of parental attachment in protecting against the negative sequelae associated with peer victimization. Moreover, as most of the research on this issue has focused on youth from communities with lower socioeconomic status (SES),

the current study examined peer victimization among adolescents from an affluent suburban community.

CHAPTER II

LITERATURE REVIEW

In recent years, bullying has been a growing national concern, with an increasing number of researchers, school teachers and administrators, clinicians, and policy makers focusing on risk-factors, prevention, and intervention efforts to address this public health problem and its sequelae. It is estimated that almost 1 in 3 students in the US have been bullied, with most bullying occurring during middle school years (Stopbullying.gov, 2017). Peer victimization incidents typically peak during middle school years, and then decrease across high school and early adulthood (Brown et al., 2005; Espelage & Horne, 2008; Pellegrini & Bartini, 2000; Smith et al., 1999). The U.S. Departments of Education and Justice report that sixth and seventh graders are at the highest risk to be victimized by peers (DeVoe et al., 2005). The transition into early adolescence is replete with biological and social change. Transitioning into middle school often means beginning to navigate more complex social dynamics (Pellegrini & Bartini, 2000; Steinberg & Silk, 2002) on top of adjusting to a larger school system that is often less personal than elementary school, with fewer supports and much more independence (Eccles, 1993). Thus, the increase in bullying incidents may be associated with children's need to establish social hierarchies during this transition (Pellegrini & Bartini, 2000), in addition to increasing academic and social competition as

adolescents becoming increasingly aware of and concerned about social status relative to their peers (Cillessen & Mayeux, 2004). In addition, school teachers and officials may not be fully aware of the frequency or severity of the bullying occurring at their schools because victimized students may not speak out, (Unnever & Cornell, 2003), and similarly, bystanders may be unsure whether or how to get involved (Smith & Brain, 2000). Thus, middle school years present a unique social and developmental period with elevated risks for peer victimization incidents, and thus, is a period of special importance to future research examining risk and protective factors.

Definition and Rates of Peer Victimization

Differences in how peer victimization is defined across studies have led to a wide range of prevalence rates ranging from 12% to 75% (Gladden et al., 2014). Older ways of defining bullying focused on an “aggressor” who intimidates or mistreats a “weaker” other, whereas modern definitions incorporate victimization related to social constructs and hierarchies (e.g., being excluded) and current technology (e.g., spreading rumors on social media; Smith & Monks, 2008). In an effort to arrive at a consistent, uniform definition of bullying, the Center for Disease Control and Prevention has defined bullying as “any unwanted aggressive behavior(s) by another youth or group of youths who are not siblings or current dating partners that involves an observed or perceived power imbalance and is repeated multiple times or is highly likely to be repeated” (Gladden et al., 2014; Stopbullying.gov, 2017). This definition thus allows flexibility to include different types of peer victimization, including overt and relational victimization.

Types of Peer Victimization

Research in recent decades has distinguished between overt and relational types of bullying. Overt bullying includes physical (shoving, pushing, hitting, etc.) and verbal (name-calling, offensive notes, verbal threats, etc.) forms of aggression, whereas relational forms aim to damage the youth's reputation or relationships with others (e.g., excluding target youth from activities and conversations (Storch et al., 2005). With the increased and widespread use of social media and online communication, cyberbullying has become more prevalent. Cyberbullying is a form of peer victimization taking place on the internet (Slonje & Smith, 2008). Similar to relational bullying, cyberbullying may involve tarnishing the peer's reputation and spreading rumors online, or may take the form of creating hurtful posts about the peer or excluding him/her from an online group. Less is known about cyberbullying as this form of aggression has more recently emerged with rapid developments in technology.

Gender Differences

Although similar overall rates of peer victimization have been reported to occur in boys and girls, with rates ranging from 19.5 to 22.8 percent for boys and from 12.8 to 23.7 for girls (Centers for Disease Control and Prevention, 2014; Finkelhor et al., 2015; U.S. Department of Education, 2015), there is evidence that types of victimization may vary by gender. For example, there is much evidence to support that boys are more likely to engage in and experience overt, physical bullying (Card et al., 2008; Nansel et al., 2001; Nansel et al., 2004; Olweus, 1993; Varjas et al., 2009). In turn, it has been commonly accepted that girls engage in more relational forms of bullying. However, findings have been inconsistent regarding whether a gender difference exists in rates of relational bullying. Much of the evidence suggests that reports of gender differences in

relational forms of peer victimization, if they are found at all, tend to be very small or “trivial”. As a result, the general consensus in the field is that relational peer victimization should not be considered a “female” form of aggression (Archer, 2004; Card et al., 2008; Gladden et al., 2014), and thus, should be examined among boys and girls alike to obtain the most accurate rates of peer victimization.

Inconsistencies in reported rates of peer victimization among boys and girls may be due to methodological differences; for example, studies using more outdated definitions of bullying or examining only overt or relational bullying (Espelage et al., 2000; Seals & Young, 2003); or studies having variability in the reporter, as parents and teachers tend to report slightly more relational victimization among girls, and fewer gender differences in bullying are found among ethnic minorities (Card et al., 2008). Thus, although the evidence suggests that boys and girls may experience similar rates of peer victimization overall, it is important to include gender to control for possible sample differences in reporting across overt and relational types of bullying.

Stability of Peer Victimization Over Time

In addition to accurately defining and estimating the prevalence of peer victimization, researchers have also sought to understand the persistence or stability of victimization over time. In other words, what proportion of those victimized continue to be victimized? Knowing the degree of persistence or stability of peer victimization is important in light of the findings suggesting those exposed to chronic or long-term bullying tend to experience worse outcomes than those experiencing temporary or less persistent bullying (Biebl et al., 2011; Burk et al., 2011; Juvonen et al., 2000). Results from longitudinal studies have yielded variable percentages of stability (percentages of

stable victims) ranging from 8% to 43% (see Pouwels et al., 2016, for a meta-analysis). A meta-analysis on 1-year stability at age 10 found a moderate .45 correlation over time (Pouwels et al., 2016). Other studies have supported a moderate level of stability across 1 to 2 elementary school years (correlation coefficients ranging from .36 to .54). These estimates indicate that between 36% and 54% of those victimized at the initial assessment of the study continued to be victimized at follow-up assessments. (Bagwell & Schmidt, 2011; Camodeca et al., 2002).

In examining long-term stability among a large sample followed from fourth to twelfth grade, results suggest moderate to high stability ranging from .34 to .93 in victimization, with higher coefficients at closer intervals (Cillessen & Lansu, 2015). For example, the stability of victimization from third grade to eleventh grade showed a .34 correlation, whereas stability from seventh to eighth grade showed a .90 correlation. The authors reported that stability coefficients were statistically significantly higher for boys than girls, suggesting that boys are more likely to be chronically victimized over time (Cillessen & Lansu, 2015). However, due to limited studies examining gender differences, and in light of the increased negative impact associated with chronic victimization, additional longitudinal research is warranted to examine gender differences in stability of peer victimization, especially across middle school when the risk for victimization often peaks (Stopbullying.gov, 2017)

Outcomes of Peer Victimization

Helping to ignite increased awareness of the impact of bullying is a large body of research examining concurrent and long-term outcomes for those who are victimized. Peer victimization has been associated with detrimental physical, psychological,

behavioral, academic and social-emotional outcomes (e.g., Craig et al., 2009; Huang et al., 2012; Lereya et al., 2015; Reijntjes et al., 2010). The negative impact of bullying has far reaching consequences beyond just those who are bullied, however, and has been shown to have negative effects on those who engage in bullying, and even bystanders (e.g., Adams & Lawrence, 2011; Gladden et al., 2014; Hanish & Guerra, 2002, O'Connell et al., 1999; Seals & Young, 2003; Stadler et al., 2010).

Although physical harm may result as an immediate consequence of physical bullying, children and adolescents who are victimized often have ensuing somatic symptoms such as headaches, stomachaches, bedwetting, and sleep difficulties (Biebl et al., 2011; Gini & Pozzoli, 2013; Hunter, Durkin, Boyle, Booth, & Rasmussen, 2014). Two recent meta-analyses examining somatic and physical symptoms among victimized children and adolescents, linked peer victimization to a range of symptoms including sleep difficulties, headaches, stomachaches, backaches, abdominal pain, dizziness, poor appetite, bedwetting, skin problems, vomiting, feeling tired, and feeling tense (Gini & Pozzoli, 2013; Goemans et al., 2015). Current findings suggest that these physical symptoms often continue into adulthood as well, with chronic forms of victimization predicting worse long-term outcomes (Biebl et al., 2011). In addition to physical symptoms, these studies often reported social-emotional difficulties including internalizing and externalizing symptoms.

Two meta-analyses suggest a strong link between peer victimization and the development of internalizing problems such as depression, anxiety, and loneliness (Hawker & Boulton, 2000; Reijntjes et al., 2010). This link was consistently found across studies assessing different types of peer victimization as well as different methods for

measuring it (e.g., self-report, teacher-report, peer-nominations). Victimization may be an especially salient risk factor for depressive symptoms. In an examination of the association between peer victimization and various internalizing issues such as depression, loneliness, generalized and social anxiety, and self-worth, findings showed that victimization was most strongly associated with depression and least associated with anxiety (Hawker & Boulton, 2000). Prevalence rates of depression among adolescents range from 4% to 8% (Nair et al., 2004; Sawyer et al., 2000), but dramatically increase to 16% to 38% among those who are victimized (Kaltiala-Heino et al., 2010; Kaltiala-Heino et al., 2000; Pranjic & Bajraktarevic, 2010). Depressive symptoms may then put adolescents at an increased risk for further victimization as those victimized become more withdrawn in their social interactions (Reijntjes et al., 2010), and experience additional psychological difficulties, including suicidality (Klomek et al., 2015). In fact, a recent report found that adolescents are 4.72 times as likely to attempt suicide when victimized in the previous year (Klomek et al., 2015). Thus, the association of depressive symptoms with peer victimization may be of particular importance for intervention and prevention efforts as the short- and long-term sequelae may be life threatening.

In regards to externalizing problems, it has been reported that that, for boys, peer victimization was associated with antisocial behavior in school, whereas for girls, it was associated with antisocial behavior at home (Snyder et al., 2003). Peer victimization also predicted teacher and mother reports of aggression, attention problems, and immature and dependent social behavior concurrently and two years later (Schwartz, McFadyen-Ketchum, Dodge, Pettit, & Bates, 1998). Other findings show that peer victimization is associated with concurrent and future aggression, inattention, and delinquency among

children with various ages and ethnic backgrounds (Hanish & Guerra, 2002). Peer victimization has also been linked to drug use, aggression, and delinquent behaviors among African American middle school students (Sullivan, Farrell, & Kliewer, 2006). Together, these findings suggest that children and adolescents experiencing peer victimization are at an increased risk for developing a host of concurrent and subsequent externalizing problems.

The impact of peer victimization on psychosocial functioning also continues into adulthood, possibly long after the active bullying has stopped. Experiences of bullying during childhood and adolescence, especially those that are chronic in nature have been linked to depressive symptoms, the development of anxiety disorders, and obesity during adulthood (Baldwin et al., 2015; Bowes, Joinson, Woke, & Lewis, 2015; Stapinski et al., 2014). Victimized children are also more likely to go on to develop substance use disorders, demonstrate aggressive behavior, experience negative health outcomes and lower quality of life, report higher rates of suicidality, and report lower satisfaction with life as long as 50 years after the bullying took place (Copeland, Wolke, Angold, & Costello, 2013; Kim, Catalano, Haggerty, & Abbott, 2011; Klomek et al., 2015; Marion, Laursen, Zettergren, & Bergman, 2013; Takizawa et al., 2014). Interestingly, a longitudinal study examining adult mental health difficulties by Lereya and colleagues showed that the impact of childhood peer victimization was greater than that of being maltreated by a caregiver during childhood (Lereya et al., 2015). Thus, there is strong evidence to suggest that peer victimization has ongoing negative impacts for children and adolescents well into adulthood, and future research should aim to examine both more immediate and long-term associated outcomes.

Transactional Models of Peer Victimization

Because the majority of studies examining the impact of peer victimization utilize a cross-sectional approach, the directionality between peer victimization and psychological difficulties is not fully known. However, a growing body of evidence suggest there may be a transactional, or bidirectional relationship where maladjustment is both a consequence of and a risk-factor for peer victimization (Reijntjes et al., 2010). Research suggests that some of the same characteristics that have been conceptualized as outcomes of bullying also pose as risk factors making children and adolescents more vulnerable to being bullied. For example, it is common for children and adolescents who experience peer victimization to report lower self-esteem than their counterparts (Egan & Perry, 1998; Hawker & Boulton, 2000; Juvonen et al., 2000; Reijntjes et al., 2010) and may even internalize their experiences and blame themselves for being bullied (Schacter et al., 2014). Self-blame and low self-esteem may lead youth to socially withdraw from peers (Nolen-Hoeksema et al., 1992). In turn, these difficulties may in fact make these children “easy targets” for bullying, placing them at increased risk for further victimization and psychosocial difficulties (Juvonen et al., 2000).

In order to understand the interplay between these constructs over time, studies must examine both directional pathways simultaneously, from peer victimization to internalizing symptoms, and from internalizing symptoms to peer victimization. As mentioned previously, current literature includes many cross-sectional studies finding that peer victimization predicts subsequent internalizing symptoms, as well as studies suggesting that internalizing symptoms place youth at risk for subsequent victimization. Often times, these studies are taken together to indicate bidirectionality between the

constructs. However, simultaneous examinations of these pathways are required in order to more accurately understand their interplay. Additionally, given previous findings indicating a relatively strong and potentially life-threatening association between peer victimization and depression, an examination of the bidirectional associations between these two constructs is particularly warranted.

Although there has been growing interest in examining the bidirectionality between depressive symptoms and peer victimization, findings have been inconsistent and much remains to be known about the temporal associations between these variables. We are aware of three studies that have found evidence for depression being both a risk-factor and a consequence of peer victimization for at least one gender (Brunstein Klomek et al., 2019; Lester et al., 2012; Sweeting et al., 2006). Notably, these studies included large, diverse samples from different geographic locations and were assessed peer victimization and depressive symptoms at a minimum of three time points. Further, these samples also included a substantial proportion of participants who endorsed clinical levels of depressive symptoms.

Although only these few studies have found evidence for bidirectionality within a given sample, other studies that have sought to examine a bidirectional association have only found evidence for one directional pathway. The results from these studies have been mixed, with a number of them finding either earlier depression predicts later peer victimization (a depressive symptoms-driven model) or that earlier peer victimization predicts later depression (a victimization-driven model; Kaltiala-Heino et al., 2010; Kochel et al., 2017; Kochel et al., 2012; Sentse et al., 2017; Sweeting et al., 2006). Similar patterns of bidirectional and single-direction findings have been obtained when

examining the bidirectional link between peer victimization and other internalizing problems such as anxiety and emotion regulation (e.g., Hanish & Guerra, 2002; Salmivalli & Isaacs, 2005; Leadbeater & Hoglund, 2009). As a collective whole, these data strongly suggest there is a transactional, or bidirectional relationship between peer victimization and internalizing symptoms, where maladjustment is both a consequence of and a risk-factor for victimization (Reijntjes et al., 2010).

Some researchers speculate that the reason for a greater number of studies finding only single-direction effects may be due to variability in the number of assessment points, smaller sample sizes, and the difficulty in capturing variability in relatively stable constructs such as depression over a short period of time (Kochel et al., 2012, 2018). Similarly, the developmental period assessed is another important factor. For example, depressive symptoms may not be a fitting outcome measure in younger children (Kochel et al., 2012, 2018). Additionally, it is important to note that the previously mentioned concerns about the definitions and types of victimization that may contribute to discrepancies in gender differences may also contribute to discrepancies in the directionality of findings. Thus, future longitudinal investigations of the bidirectional link between depressive symptoms and victimization should include comprehensive definitions of peer victimization that are measured along with depression or other internalizing symptoms at multiple assessment points scheduled at large enough intervals to allow for changes in the constructs. These examinations may be particularly informative during the middle school years given previous research showing increased rates of both peer victimization and onset of depressive symptoms during this time period (Hawker & Boulton, 2000; Nair et al., 2004).

Parental Relationship as a Protective Factor

Childhood resilience has been a growing focus of research during recent decades. Resilience refers to the “positive adaptation despite significant life adversities” (Cicchetti & Garmezy, 1990; Luthar & Zigler, 1991; Masten et al., 1990; Luthar et al., 2000). Consistent with the concept of multifinality in developmental psychopathology (Cicchetti & Rogosch, 1996), extant literature suggests that not all children and adolescents exposed to peer victimization go on to experience the same outcomes. It has long been accepted that an individual’s immediate environment plays a role in shaping his/her development. Bronfenbrenner’s (1979) ecological framework describes interrelated ecological systems that impact an individuals’ development, and are in turn impacted by the characteristics of that individual. For example, a stressed parent responding inconsistently to child misbehavior may result in the escalation of misbehavior, which may further increase the parent’s stress (Neece et al., 2016). As it relates to bullying, researchers, more so outside of the U.S., have begun to recognize the importance of inter-relationships between children and adolescents and their environments.

Family relationships are among the most important protective factors for children against adverse experiences and psychosocial difficulties (Masten & Shaffer, 2006) including both peer victimization and depressive symptoms (Branje et al., 2010; Duggins et al., 2016). Positive parenting behaviors characterized by warmth, involvement, support, and low conflict have been shown to buffer against the negative emotional and behavioral consequences of peer victimization (Bowes et al., 2010; Sapouna & Wolke, 2013). Conversely, a recent meta-analysis found that punitive and negative parenting behaviors (e.g., overprotection, parental violence, lack of parental encouragement, abuse,

and neglect) may negatively impact a child's social functioning and increase his or her risk of experiencing peer victimization (see Lereya et al., 2013). Thus, parenting behaviors appear to be important for buffering against the negative outcomes associated with peer victimization, as well as even shaping the likelihood of experiencing peer victimization at all, informing both research and clinical work about the important role of parenting for children's well-being.

Rather than examining one or more specific parenting behaviors, it may be a better indication of the protective nature of the parent-child relationship to assess the quality of the relationship from the child's perspective. One way to examine the strength of the relationship between the child and the caregiver is through the child's attachment to that caregiver (Bowlby, 1988). Attachment theorists posit that one's attachment or bond to significant caregivers acts as a blueprint for other extra-familial social relationships, particularly relationships with peers. Extending this model to peer relationships would suggest that those who are more secure in their attachment with parents are less likely to experience social difficulties and more likely to be accepted by peers (see Schneider et al., 2001 for meta-analysis). Other studies have documented a link between parental attachment and lower rates of victimization among children and adolescents (Dykas et al., 2008; Murphy et al., 2017; Walden & Beran, 2010), and still others have found that in the face of victimization, parental attachment predicts lower rates of aggression and greater support-seeking behaviors (Ševčíková et al., 2015). Although these studies provide preliminary evidence on the protective role of parental attachment, they have primarily focused on the association between attachment and the likelihood of experiencing peer victimization. Thus, it remains to be known whether

parental attachment may confer protection against the negative sequelae of victimization, like depressive symptoms, among victimized youth. Further, most of the studies examining the association of parental attachment and peer victimization were cross-sectional, leaving much unknown about the role of parental attachment in the experience of peer victimization over time, and whether attachment may be protective against both concurrent and long-term negative outcomes.

Socioeconomic Status

It is commonly held that students in low-income communities are more likely to experience peer victimization (Carlson, 2006). However, results have been discrepant as to the extent of this association, and a recent meta-analysis showed a significant yet weak (OR = 1.40) association between low SES and victimization (Tippett & Wolke, 2014). The authors noted that low SES may not be directly linked with victimization but rather indirectly through an unstable home environment that may impact children's social functioning, making them more vulnerable to bullying (Tippett & Wolke, 2014). Other researchers contend that perceived inequality of resources among peers is a better predictor of victimization than low SES itself, as perceived inequality can also occur among peers in high and low SES communities alike (Hong & Espelage, 2012). Unfortunately, although the examination of peer victimization is warranted among youth across various levels of socioeconomic status, little research has focused specifically on peer victimization among youth from high SES backgrounds.

Adolescents from affluent communities have long been overlooked due to the assumption that they are "low risk" (Luthar & Becker, 2002). Recently, however, researchers have become increasingly aware of the need to examine contextual factors

within specific communities to best understand risks for maladjustment (Hong & Espelage, 2012). Children and adolescents from relatively affluent communities may face unique challenges that are not readily recognized by researchers. For example, Luthar and colleagues found high rates of depression, anxiety, and substance use in youth from affluent communities (Luthar, 2003; Luthar & Latendresse, 2005; Luthar et al., 2017). In some cases, rates of these problems were as high as three times the normative rates based on a nationally representative sample of same-age peers (Luthar et al., 2017). Youth from affluent communities frequently attend high achieving-schools, and as such, experience extremely high social and academic competition (Buunk et al., 2014; Luthar & Kumar, 2019). These competitive, high pressure environments have been linked to stress and psychological difficulties (Ciciolla et al., 2017), and may exacerbate bullying behaviors aimed at establishing oneself in social hierarchies (Pelligrini et al., 2000; Steinberg & Silk, 2002). Such environments also have heightened pressure for popularity and social status which has been shown to be a risk factor for the use of physical and relational aggression towards peers (Cillessen & Borch, 2006; Cillessen & Mayeux, 2004). Preliminary findings suggest that middle and high SES levels are associated with more bullying behaviors including overt and relational forms (Jankauskiene et al., 2008). Nonetheless, few studies have specifically examined students from affluent communities, and much remains to be known regarding the prevalence rates of peer victimization rates in light of the unique challenges faced by this population (Due et al., 2009; Jansen et al., 2012).

Current Study

The current study sought to better understand peer victimization within affluent schools, including the short- and long-term risks for depressive symptoms and other psychosocial difficulties, as well as the possible protective role of parental attachment. To do this, the current study utilized a longitudinal, cross-lagged design to first examine the stability of peer victimization (including both overt and relational types) across the middle school years, as well as the interplay between peer victimization and depressive symptoms during those years. Specifically, the model added to the current literature and addressed discrepant findings by simultaneously assessing the impact of peer victimization on subsequent depressive symptoms, as well as the impact of depressive symptoms on subsequent levels of peer victimization, among both boys and girls. Additionally, the model tested whether peer victimization during middle school predicted depressive symptoms, substance use, and life satisfaction 13 years later in early adulthood. Finally, to understand possible factors that might protect against the negative effects of peer victimization, the current study also examined youths' reported attachment to their parents (both moms and dads) and the extent to which the relationship may buffer against the negative sequelae of peer victimization. Below are the specific aims and hypotheses of the current study.

1. The stability of peer victimization was examined in grades six (Time 1) seven (Time 2), and eight (Time 3).
 - a. It was hypothesized that peer victimization would show moderate stability across the assessed time points.
 - b. No differences in rates of peer victimization were expected between grades six, seven, and eight.

2. The interplay between peer victimization and depressive symptoms was examined within and across time-points.
 - a. It was hypothesized that peer victimization and depressive symptoms levels would be concurrently correlated within each time point.
 - b. It was hypothesized that peer victimization and depressive symptoms would show bidirectional or cross-lagged associations across time points. In other words, peer victimization in grades six and seven would predict future depressive symptoms in grades seven and eight, respectively; and depressive symptoms in grades six and seven would predict future peer victimization in grades seven and eight, respectively.
3. The link between peer victimization and depressive symptoms in grades six, seven, and eight and substance use, depressive symptoms, and satisfaction with life in adulthood (Time 4) was examined.
 - a. It was hypothesized that higher levels of victimization and depressive symptoms across middle school years would be associated with higher substance use and depressive symptoms and lower satisfaction with life.
4. The relationship between peer victimization, attachment to parents and depressive symptoms was explored examining whether parent attachment (at grade six) moderates the cross-lagged associations between peer victimization and depressive symptoms as well as the associations between peer victimization during the middle school years and outcomes in adulthood.
 - a. It was hypothesized that parental attachment would moderate cross-lagged pathways between peer victimization and depressive symptoms across

time points. It was expected that the relation between peer victimization and depressive symptoms would be greater at lower levels of maternal and paternal attachment.

- b. It was hypothesized that parental attachment would moderate the link between victimization across middle school years and adult outcomes, including substance use, depressive symptoms, and satisfaction with life. It was expected that the relation between peer victimization and adult outcomes, would be greater at lower levels of maternal and paternal attachment.

CHAPTER III

METHODOLOGY

Study Design and Procedure

The proposed study utilized archival quantitative data from a larger longitudinal study conducted with youth from an affluent suburban community in the Northeastern U.S., The New England Study of Suburban Youth (NESSY) study. The current project focused on a cohort of participants assessed from sixth through twelfth grade, and then again across the five years following college graduation. Parents of sixth grade students received a letter from school administrators inviting them to participate in a study focusing on psychosocial adjustment across development in affluent communities. Inclusion was based parental consent. According to the US Census Bureau (2000), when data collection began, the median household income for the town was \$125,381, which fell in the top 5% of US household income at the time data collection began in 1999.

Participants

Participants included 319 students who participated in annual data collection during sixth, seventh, and eighth grade years. Like many longitudinal studies, the NESSY data had notable attrition across the years. Importantly, because assessments were done in collaboration with the school system, attrition was minimal during the middle school years with data collected from 317 of the original 319 students at all three time points.

However, by the time participants were in adulthood, a large proportion of the sample was lost to follow-up, with 183 participants completing the final wave of assessment at age 27.

Measures

Demographics. A demographic questionnaire was utilized to obtain descriptive information regarding our sample such as gender, ethnicity, parents' marital status, and parents' education level. This information was used to characterize the sample, and gender was included in all analyses to test for model invariance.

Peer Victimization. Peer victimization was measured during sixth, seventh, and eighth grades using the Social Experience Questionnaire (SEQ; Crick & Grotpeter, 1996). The SEQ is a 22-item self-report questionnaire assessing Overt Victimization (7 items; e.g., "how often do you get hit by another kid at school"), Relational Victimization (9 items; e.g., "how often does another kid tell lies about you so other kids won't like you anymore?") and Receipt of Prosocial Acts (6 items; e.g., "how often does another kid give you help when you need it"). A Total score is obtained by summing all victimization items and reversed prosocial acts items. Questions are answered on a 5-point Likert scale (1=never, 5=all the time), with higher scores reflecting greater peer victimization. The SEQ is a widely used measure and has demonstrated acceptable internal consistency (Crick & Grotpeter, 1996; Storch et al., 2005). The Total Victimization score was utilized in this study.

Depressive Symptoms. Adolescents' depressive symptoms levels were assessed during sixth, seventh, and eighth grades by total score of the Children's Depression Inventory (CDI; Kovacs, 1992). The Children's Depression Inventory is a 27-item self-

report inventory examining depressive symptoms such as feelings of worthlessness and loss of interest in activities in adolescents within the previous two weeks. Answers to each item consist of three statements with gradual severity, ranging from 0 to 2. Participants are asked to choose the sentence that best describes them. The CDI is a standardized measure and has demonstrated good internal consistency (Saylor et al., 1984; Smucker et al., 1986).

Depressive symptoms in adulthood were measured by the Anxious/Depressed subscale of the *Adult Self Report* (ASR; Achenbach & Rescorla, 2003). The ASR is a 126-item self-report questionnaire for adults assessing various psychological and behavioral. The Anxious/Depressed subscale is made up of 14 items assessing depressive and anxiety symptoms such as loneliness and worry. Items are answered on a 3-point scale: 0-Never, 1-somewhat or Sometimes True, 2-Very True or Often. The ASR is a widely used measure and has demonstrated good psychometric properties (Achenbach & Rescorla, 2003).

Substance Use. To assess the frequency of alcohol and substance use in adulthood, participants completed questions taken from the Monitoring the Future study (Johnston et al., 2014). Questions assessed participants' use during the previous 30 days as well as previous year for each substance. For the purposes of this study, answers regarding use within the previous year were utilized in the analyses. It was thought that use within the previous year would more accurately represent frequencies as students were assessed at different times during the year and assessment at different months may impact use (e.g., months with holidays, final exams).

Satisfaction with Life. Satisfaction with life was assessed in adulthood using the Satisfaction with Life Scale (SWLS; Diener et al., 1985). The SWLS is a 5-item scale assessing global satisfaction with life (e.g., “in most ways my life is close to my ideal”) on a 7-point Likert scale (1=strongly disagree, 7=strongly agree) with higher scores reflecting greater life satisfaction. The SWLS shows good reliability and test-retest stability (Diener et al., 1985).

Parental Attachment. Adolescents’ attachment with parents was assessed in grade six using the parent portion of the Inventory of Parent and Peer Attachment-Revised (IPPA-R; Gullone & Robinson, 2005; original version developed by Armsden & Greenberg, 1987). The parent section of the IPPA-R is 50-item self-report measure assessing the adolescent’s attachment to his/her mother (25 items) and father (25 items). Questions are answered on a 5-point Likert scale (1=almost never/never true, 5=almost always/always true), with higher scores reflecting a greater degree of attachment. Three subscales make up the IPPA-P: Trust (10 items, e.g., “my mother respects my feelings”), Communication (9 items; e.g., “I tell my father about my problems and troubles”), and Alienation (6 items; e.g., “I get upset easily around my mother”). The IPPA-R has demonstrated good internal consistency and convergent validity (Gullone & Robinson, 2005). The Total Attachment score (the sum of all items) was be used in this study.

Proposed Analyses

Bivariate correlations were conducted among all study variables. The longitudinal associations among study variables were assessed in a structural equation modeling (SEM) framework using a cross-lagged panel model (CLPM) (Selig & Little, 2012). Analyses were done using Mplus version 8.0 software (Muthen & Muthen, 2017). Given

the higher rates of missing data inherent to longitudinal studies, full information maximum likelihood estimation was utilized for each analysis. In this way, all of the available observations for each variable were used to compute the likelihood function (Enders & Bandalos, 2001).

Analyses for Aim 1. The purpose of this aim was to examine the stability of peer victimization across the first three time points (grades six, seven, and eight). (1) How strongly associated are reports of victimization across the three time points? (2) Do rates of victimization vary across the middle school years? It was hypothesized that moderate associations would be found among reports of victimization across the three time points. Bivariate correlations and descriptive analyses were conducted among all variables at T1, T2, and T3. Additionally, a mixed ANOVA was conducted in order to examine differences in bullying rates in boys and girls across the three grades.

Analyses for Aim 2. The purpose of this aim was to understand the longitudinal relationship between peer victimization and depressive symptoms. It was hypothesized that (1) earlier peer victimization would predict depressive symptoms at future time points, and (2) earlier depressive symptoms would predict peer victimization at future time points. The cross-lagged panel model (CLPM) simultaneously estimated the longitudinal association between peer victimization and depressive symptoms across the middle school years. Specifically, the models in the Figures 1 through 4 tested competing hypotheses examining (1) a concurrent model showing that earlier peer victimization predicts later peer victimization, and earlier depressive symptoms predict later depressive symptoms, and that although peer victimization and depressive symptoms may be concurrently correlated within a given time point, one construct does not predict the other

at subsequent time points (Figure 1); (2) a peer victimization-driven model where early peer victimization predicts later depressive symptoms (Figure 2); (3) a depressive symptoms-driven model where early depressive symptoms predict later peer victimization (Figure 3); and (4) a bidirectional association between peer victimization and depressive symptoms over time, with early peer victimization predicting later depressive symptoms and early depressive symptoms predicting later peer victimization (Figure 4). Nested model tests were used to determine which model best fits the data. After choosing a model, a multiple group model to assess invariance was utilized to examine model fit across boys and girls.

Analyses for Aim 3. The purpose of this aim was to examine the link between peer victimization and depressive symptoms during middle school years and adult outcomes. Specifically, it was hypothesized that peer victimization and depressive symptoms during middle school would be associated with higher levels of substance use, depressive symptoms, and satisfaction with life in adulthood. The CLPM that best fit the data from Aim 2 was extended to predict adjustment in adulthood, specifically substance use, depressive symptoms, and satisfaction with life at age 27 years (Figure 5).

Analyses for Aim 4. The purpose of this aim was to evaluate the hypothesized moderation effect of maternal and paternal attachment on the relationship between study variables. It was expected that the relation between peer victimization and depressive symptoms, and peer victimization and adult outcomes, would be greater at lower levels of maternal and paternal attachment. Based on the CLPM that best fit the data in the previous aims, a series of regression models were constructed to examine the moderating role of maternal and paternal attachment on the significant pathways between peer

victimization and depressive symptoms during middle school time points, and the significant pathways between middle school peer victimization and adult outcomes. For example, if the path coefficient representing the regression of grade seven peer victimization (P_7) on grade six depressive symptoms (D_6) shows statistical significance (i.e., $\hat{P}_7 = bD_6 + i$, where b is statistically significant), we followed-up with assessing whether the relationship between grade seven peer victimization (P_7) and grade six depressive symptoms (D_6) is moderated by parental attachment (A_6 ; $\hat{P}_7 = bD_6 + bP_6 + bD_6*A_6 + i$).

CHAPTER IV

RESULTS

Descriptives and Correlations

Descriptive statistics were examined in order to understand the variability and distribution of key study variables. Means, standard deviations, number of valid responses for each variable, range, and correlations are presented in Table 1. Mean scores suggest that victimization and depressive symptoms are highest during sixth grade and lowest during seventh grade. Pearson correlations show significant associations among all middle school variables in the expected directions. Moderate to large (.45 - .71) associations were found for repeated measures (victimization, depressive symptoms across the three middle school time points, sixth, seventh, and eighth grade).

Aim 1

The findings from Pearson correlations supported the first hypothesis that peer victimization would demonstrate moderate stability across sixth, seventh, and eighth grades. All correlations were statistically significant, and ranged from .45 to .49. To further examine changes in peer victimization across the middle school years, and variability between boys and girls, a mixed ANOVA was conducted. The assumption of sphericity was violated ($p > .05$; Greenhouse-Geisser estimate $> .75$), thus Huynh-Feldt correction was used and reported. There was a significant interaction between grade level

and gender, $F(1.90, 475.22) = 5.17, p < .01$. Therefore, conditional slopes were examined. The effect of gender during sixth ($F(1, 250) = 40.78, p < .01$), seventh ($F(1, 250) = 17.60, p < .01$), and eighth grade ($F(1.90, 475.22) = 22.25, p < .05$) was significant with males reporting significantly higher levels of victimization at all three time points. There was a significant effect of grade level among boys ($F(2, 249) = 114.97, p < .01$), where all three pairwise comparisons across the three grade levels were statistically significant. In other words, males reported their highest mean level of victimization during sixth grade, followed by eighth grade, and their lowest average during seventh grade. There was also a significant effect of grade level among girls, ($F(2, 249) = 66.22, p < .01$). However, unlike males, females reported similar levels of victimization during sixth and eighth grades, and significantly less victimization in seventh grade. The interaction graph is depicted in Figure 6.

To examine the variability in reported depressive symptoms between boys and girls, an exploratory mixed ANOVA model was conducted. The assumption of sphericity was again violated ($p > .05$; Greenhouse-Geisser estimate $> .75$), and the Huynh-Feldt correction was used. The interaction between grade level and gender was significant, $F(1.90, 144.33) = 7.56, p < .01$. Thus, conditional slopes were examined. The effect of gender was significant only during sixth grade ($F(1, 253) = 11.248, p < .01$) with boys reporting significantly higher levels of depressive symptoms than girls. By seventh and eighth grades, boys and girls had approximately equal levels of depressive symptoms. There was a significant effect of grade level among boys ($F(2, 252) = 5.51, p < .01$),

where depressive symptoms were significantly higher in sixth grade, and rates declined in seventh and eighth grade. There was also a significant effect of grade level among girls, ($F(2, 252) = 3.26, p < .05$). Girls reported similar levels of depressive symptoms during sixth and seventh grades, and significantly higher depressive symptoms in eighth grade. The interaction graph is depicted in Figure 7.

Aim 2

The four proposed CLPM models were constructed to examine the relationship between peer victimization and depressive symptoms across the middle school years. Gender was used as a covariate in the four models in order to examine the role of gender and inform the subsequent multiple group model which assessed fit across boys and girls. Specifically, the fit of each of the four models was assessed under three conditions: without gender as a covariate, with gender included as a covariate on grade six victimization and depressive symptoms, and with gender included as a covariate on victimization and depressive symptoms at all three middle school time points. Nested model testing was done to examine the best fitting model for the data. Covarying gender on peer victimization and depressive symptoms at all three middle school time points was statistically the best fitting model for the data. Table 2 shows fit indices for each of the four models and results of the nested model testing.

Next, the four CLPM models were run, with gender covaried with peer victimization and depressive symptoms at all time points. Nested model testing was done

to examine which of the four CLPM models best captures the relationship between peer victimization and depressive symptoms during middle school. When compared to the stability-only model, the peer victimization-driven model was not statistically a better fit to the data (χ^2 diff(2) = 2.02, $p = .36$). However, the depressive symptoms-driven model was found to be a better fit compared with the stability-only model (χ^2 diff(2) = 29.50, $p < .01$). Subsequently, the depressive symptoms-driven model was compared to the full transactional model, but the full transactional model was not shown to be a better fit (χ^2 diff(2) = 1.42, $p = .49$). Therefore, the depressive symptoms-driven model was used for follow-up analyses. Tables 3 – 6 show estimates for all the models.

Multiple group analysis was done using equality constraints to examine the possible moderating role of gender on specific pathways within the depressive symptoms-driven model. Gender was included as a grouping variable in this analysis rather than a covariate in order to examine differences between boys and girls. Only the link between grade seven depressive symptoms and grade eight depressive symptoms was significantly moderated by gender. Although statistically significant for both boys and girls, the relationship between grade seven and grade eight depressive symptoms was larger for girls ($B = .90$, $p < .01$) than it was for boys ($B = .65$, $p < .01$). The model with the moderated path was found to have better fit than the depressive symptoms-driven model (without covariates) (χ^2 diff(1) = 7.95, $p < .01$). Nonetheless, gender was not a significant moderator of most paths, and all models functioned similarly for boys and girls except in levels of victimization and depressive symptoms. Thus, the depressive

symptoms-driven model with gender covaried at all three middle school points was adequate and used in subsequent analyses.

Aim 3

Based on the results for Aim 2, the depressive symptoms-driven model was extended to predict adult outcomes including substance use, depressive symptoms, and satisfaction with life at age 27. Although the model had a statistically significant chi-square test, $\chi^2(18) = 37.06, p < .05$, it showed good fit according to accepted standards, RMSEA = 0.05, SRMR = 0.06, CFI = 0.97. Importantly, grade eight depressive symptoms were associated with lower satisfaction with life in adulthood. Concurrently within the adulthood time point, depressive symptoms were positively correlated with substance use, and negatively correlated with life satisfaction. Table 7 shows the estimates for this model.

Aim 4

To examine the potential protective role of parental attachment, moderation analyses using multiple regression were conducted on the statistically significant lagged pathways in the previous analyses. Specifically, moderation analysis by parental attachment was tested for two pathways: 1) depressive symptoms in grade seven → peer victimization in grade eight; 2) depressive symptoms in grade eight → satisfaction with life in adulthood. Each model was examined separately for maternal and paternal attachment.

The first moderation model was constructed to predict grade eight victimization and included grade seven depressive symptoms, maternal attachment, and their interaction as predictors. The overall model was significant, $R^2 = .22$, $F(3,244) = 22.57$, $p < .01$. Although grade seven depressive symptoms ($B = .72$, $p < .01$) and maternal attachment ($B = -.09$, $p < .05$) were significant predictors, the interaction term (maternal attachment X depressive symptoms) was not significant ($B = .01$, $p = .18$). The same model was then constructed with paternal attachment as the moderator. The overall model was significant, $R^2 = .21$, $F(3,240) = 21.04$, $p < .01$. As expected, grade seven depressive symptoms ($B = .68$, $p < .01$) were positively associated with grade eight depressive symptoms; however, paternal attachment ($B = -.06$, $p = .14$) and the interaction term (paternal attachment X depressive symptoms) were not significant ($B = -.0003$, $p = .94$).

Next, moderation models were constructed to examine the potential protective role of maternal and paternal attachment on the link between grade eight depressive symptoms and satisfaction with life in adulthood. The first model included maternal attachment as a moderator and was not significant, $R^2 = .05$, $F(3,119) = 1.87$, $p = .14$. Similarly, the moderation model for paternal attachment was not significant, $R^2 = .03$, $F(3, 117) = 22.57$, $p = .28$.

CHAPTER V

DISCUSSION

The current study aimed to further understand peer victimization among adolescents from affluent communities. Broadly, our findings suggest moderate stability of peer victimization during the three middle school years, with higher rates consistently reported among boys. Further, results of the CLPM analyses support a depressive symptoms-driven model in predicting future peer victimization and even functioning in adulthood. Although neither maternal nor paternal attachment were protective against depressive symptoms, maternal attachment was associated with lower levels of peer victimization in the middle school years.

Peer Victimization During Middle School

In support of the first hypothesis, results showed a moderate level of stability in reported peer victimization rates across grades six, seven, and eight. This extends previous findings among other samples across a range of SES and suggests that adolescents in affluent communities may similarly experience consistent victimization across time (Rueger et al., 2011). In examining gender differences, results showed that boys consistently reported higher victimization levels than girls across the three time points. Both boys and girls reported their lowest level of victimization during seventh grade. These findings are in contrast to previous research suggesting peer victimization

typically decreases to its lowest levels in eighth grade (Baly et al., 2014; Carlyle & Steinman, 2007; Nansel et al., 2001; Wang et al., 2009). The decrease in seventh grade rates followed by an increase in eighth grade observed in our sample may be a cohort artifact. For example, teacher involvement and school environments may have shifted during the three year period, which previous literature has shown to impact rates of victimization (Salmivalli et al., 2010) Nonetheless, this pattern may also reflect demographics of the sample, particularly differences in SES. Although youth generally experience less victimization as they adjust to new social hierarchies, as did our sample during seventh grade, affluent adolescents may experience added academic and social competition and pressures in eighth grade as they prepare to enter high school (Luthar et al., 2019). Future research is needed to replicate findings and determine if the observed stability pattern is consistent across high SES community samples.

Our findings also do not support the hypothesis that boys and girls would experience similar levels of victimization. Although much of the previous research found boys to experience higher levels of victimization, those findings were typically based on a more overt definition of victimization. Given that our study used a victimization measure combining both overt and relational victimization, we expected to find similar rates across boys and girls. One reason for the observed difference may be that our definition and assessment of victimization did not include cyberbullying. Research suggests that girls report higher levels of cyberbullying than boys, and inclusion of this type of victimization may have increased rates among girls to be comparable to those reported by boys (Wang et al., 2009).

Interplay Between Peer Victimization and Depressive Symptoms

Overall, results showed that depressive symptoms and peer victimization were correlated at each time point. Additionally, depressive symptoms during seventh grade predicted peer victimization in eighth grade, suggesting depressive symptoms may be an important risk factor for subsequent peer victimization. With the inconsistent findings in the broader literature regarding the temporal relationship of these two constructs, our findings lend support to a depressive symptoms-driven model. This finding is particularly critical for our sample due to the high rates of internalizing symptoms and depressive symptoms among affluent youth (Luthar & Becker, 2002). These results suggest that the documented high rates of depressive symptoms among affluent youth are not only alarming because of their psychological distress, but also because they may place youth at an increased risk for being victimized by peers. Thus, findings have important clinical implications by helping to better identify those at risk to be victimized by peers, and therefore allowing for more targeted prevention strategies. The current study also makes a unique contribution to extant literature in examining peer victimization and its patterns and impact among an understudied population. Although additional research is needed to fully understand the directionality of peer victimization and depressive symptoms in this population, findings suggest a depressive symptoms-driven model may have utility and warrants future investigation.

It should be noted that sixth grade depressive symptoms were not predictive of seventh grade peer victimization. Although the lack of association may be impacted by the moderate-high stability of our variables, previous findings also suggest that the relationship between peer victimization and depressive symptoms may change in strength and direction depending on developmental period. Specifically, previous findings suggest that a depressive symptoms-driven model is more supported among older adolescents which may explain why we found this link in the later years of the model (Sweeting et al., 2010).

The Role of Gender

Given the observed gender differences in rates and patterns of change in peer victimization, it was expected that gender would be an important variable for the interplay between peer victimization and depressive symptoms. In fact, when testing competing cross-lagged models, gender-covaried models consistently yielded a statistically better fit. Although, the cross-lagged paths were not moderated by gender, the path from seventh grade depressive symptoms to eighth grade depressive symptoms was moderated for boys and girls. The relationship was significant for both genders, but much stronger for girls than boys. These findings highlight and support previous literature suggesting greater chronicity of depressive symptoms for adolescent girls, particularly as they become older and reach the age of puberty (Holsen et al., 2000; Keenan et al., 2009). Thus, the fact that gender did not significantly moderate the path from sixth grade depressive symptoms to seventh grade depressive symptoms also supports previously documented developmental trajectories of depressive symptoms among females (Tram & Cole, 2006).

Adulthood Outcomes

The depressive symptoms-driven model was extended to examine its relationship to substance use, depressive symptoms, and satisfaction with life in adulthood. Although peer victimization during the last year of middle school was not predictive of functioning in adulthood, eighth grade depressive symptoms were associated with lower satisfaction with life during adulthood. These findings again support a depressive symptoms-driven model, and highlight depressive symptoms as an important risk factor to future functioning, in this case up to 13 years later (five years post college). It should be noted that middle school depressive symptoms were predictive of satisfaction with life in adulthood even after statistically controlling for concurrent depressive symptoms. As previously mentioned, affluent youth report higher levels of depressive symptoms and psychological distress than their counterparts (Koplewicz et al., 2009); thus, the current findings suggest that affluent youth may not only be at an increased risk for depressive symptoms, but that these symptoms continue to be impactful years later in adulthood. Together with previous literature, our findings should encourage future research to examine underlying mechanisms of the long-term impact of depressive symptoms as well as preventative measures. Depressive symptoms in adulthood were also concurrently associated with substance use and life satisfaction, supporting previous findings about the negative impact of depressive symptoms in adulthood (Swendsen & Merikangas, 2000). Taken together, the current study serves to highlight the negative short- and long-term risks associated with depressive symptoms, which is of particular importance given the high rates of internalizing problems and depressive disorders found among affluent youth.

The findings are at odds with previous research documenting the long-term negative outcomes associated with peer victimization. First, it may be that when both peer victimization and depressive symptoms are considered simultaneously, only depressive symptoms uniquely contribute to future outcomes, further enforcing a depressive symptoms-driven model. In other words, when controlling for the depressive symptoms, peer victimization was no longer predictive of negative, suggesting that long-term negative outcomes associated with peer victimization may manifest as a result of the internalizing problems that first led to peer victimization. Moreover, our sample had low levels of victimization overall (between 86% and 97% of responses below the midway point of the scale), which likely limited our ability to detect significant associations. Similarly, analyses may have been statistically under-powered due to a moderate sample size, the addition of variables in our adulthood model, and significant attrition at the adulthood assessment.

The Role of Parental Attachment

Maternal and paternal attachment were examined as moderators or protective factors in the two significant pathways that emerged in previous analyses: the link between depressive symptoms in grade seven and peer victimization in grade eight, and the link between eighth grade depressive symptoms and life satisfaction in adulthood. Maternal and paternal attachment were not found to significantly moderate either link. However, higher levels of maternal (but not paternal) attachment were associated with lower rates of peer victimization. Our results support previous findings highlighting the positive outcomes associated with maternal attachment, including among affluent youth (Luthar & Barkin, 2012). Thus, for our sample, maternal attachment was protective

against peer victimization. It may be that a stronger relationship with a parent allows for greater communication, allowing the parent to be more aware and responsive to incidents of victimization occurring in their adolescent's life (Nikiforou et al., 2013). That maternal attachment rather than paternal attachment predicts lower rates of victimization is likely a reflection of mothers being the primary caregivers of their children, a finding consistent across SES levels (Luthar & Sexton, 2004). Among affluent families in particular, mothers tend to be the primary caregivers and are more likely to be involved in and responsible for children's schooling, which results in children spending significantly more time with their mothers (Ciciolla & Luthar, 2019; Daly, 2002).

Implications

Results of the current study particularly emphasize the role of depressive symptoms in predicting aspects of future functioning, up to 13 years later. Depressive symptoms warrant attention "in their own right," yet they also place youth at a significantly higher risk for being victimized by peers. This is consistent with anti-bullying interventions finding more success when incorporating cognitive behavioral components that target internalizing problems (Grills-Taquechel et al., 2010). Addressing internalizing symptoms such as self-defeating thoughts and withdrawal, allows adolescents to become aware of and use healthy coping strategies when dealing with such symptoms, and therefore decreasing behaviors that may make them "easy targets" for bullying. The current study thus provides support for a depressive symptoms-driven model among an understudied population and suggests that similar intervention efforts may be effective among affluent adolescents. Similarly, those with poor or lower levels of attachment with mothers may also be at an increased risk for victimization. As

observed in our sample, maternal attachment was predictive of lower victimization rates two years later, and previous research shows those with stronger parental and friend support experience less victimization (Schneider et al., 2001). Efforts aiming to strengthen parental relationships and social support may be effective ways to help decrease risk for victimization, as well as depressive symptoms (Nickerson et al., 2009).

Strengths and Limitations

The current study had a number of strengths including utilizing longitudinal methodology with assessment points across middle school, allowing us to examine the interplay between variables during an important, transitional developmental period. Additionally, the analyses and statistical models utilized in the study included a simultaneous examination of multiple outcomes, and thus providing a more comprehensive understanding of long-term and concurrent relationships between variables. Finally, the focus on affluent youth allows this study to make a unique contribution to extant literature, informing future research with high SES populations, as well as intervention efforts among their communities.

Nonetheless, there are a number of limitations to the current study. First, although our sample size was not small, it may have not provided sufficient statistical power for our analyses, particularly cross-lagged models assessing several variables and measurement points. This may be particularly relevant for the adulthood model, given the attrition within the sample. Of note, the CLPM analyses are limited in that they do not separate the within-person variance from the between-person variance. In other words, CLPM analyses do not capture the “within-person relationships over time,” but rather individual differences or where an individual’s score falls in comparison to others. Thus,

CLPM analyses are useful in preliminary examination of relationships between variables over time and the effects of one on the other, rather than how they specifically function within an individual or if an individual's initial level determines the direction and degree of change over time (Selig & Little, 2012). Our results are also limited due to peer victimization being only measured in middle school. It may be that victimization had an earlier onset than depressive symptoms, and that later depressive symptoms only served to exacerbate peer victimization. This would be consistent with previous studies finding that depressive symptoms predicting future victimization occurred specifically among older adolescents (Sweeting et al., 2010). Finally, our data is limited by the sole use of self-report measures for all our variables; multi-informant and observational data may reflect different patterns. Nonetheless, our results capture youth perceptions of their personal experiences, which remains an important aspect to examine.

Conclusion

Despite these limitations, the current study extends our understanding of peer victimization to include adolescents in affluent communities. Taken together, the findings suggest being male, depressive symptoms, and poor maternal attachment pose as risk factors for peer victimization, with implications for life satisfaction in adulthood. Importantly, results provide support for a depressive symptoms-driven model, highlighting how depressive symptoms place youth at risk for future and additional maladjustment. In light of previous inconsistencies regarding the relationship between depressive symptoms and peer victimization, our results suggest a depressive symptoms-driven model may have utility among both affluent boys and girls. Given the high rates of depression and internalizing disorders found among affluent youth, early identification of

those at risk as well as intervention are critical in order to interrupt this negative trajectory.

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APPENDIX A. TABLES

Table 1. Correlations, means, standard deviations, and valid sample size of study variables.

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|--------------------------------|--------|--------|--------|--------|-------|--------|--------|--------|--------|-------|-------|
| 1. Victimization (6) | – | | | | | | | | | | |
| 2. Depressive Symptoms (6) | .61** | – | | | | | | | | | |
| 3. Maternal Attachment (6) | .45** | -.43** | – | | | | | | | | |
| 4. Paternal Attachment (6) | -.33** | -.43** | .57** | – | | | | | | | |
| 5. Victimization (7) | .45** | .32** | -.21** | -.17** | – | | | | | | |
| 6. Depressive Symptoms (7) | .42** | .66** | -.32** | -.34** | .42** | – | | | | | |
| 7. Victimization (8) | .49** | .42** | -.24** | -.22** | .49** | .45** | – | | | | |
| 8. Depressive Symptoms (8) | .28** | .50** | -.23** | -.29** | .27** | .71** | .49** | – | | | |
| 9. Depressive Symptoms (A) | .02 | .10 | -.03 | -.09 | .18* | .19* | .09 | .12 | – | | |
| 10. Substance Use (A) | -.07 | .00 | .05 | .10 | -.09 | .03 | -.05 | -.03 | .14 | – | |
| 11. Satisfaction with Life (A) | -.14 | -.29** | -.03 | .10 | -.17* | -.28** | -.19 | -.23** | -.35** | -.12 | – |
| <i>Range</i> | 14-97 | 0-34 | 32-125 | 36-125 | 11-74 | 0-46 | 22-105 | 0-45 | 0-9 | 13-60 | 7-35 |
| <i>M</i> | 43.40 | 8.52 | 104.23 | 99.56 | 31.25 | 7.98 | 41.40 | 8.06 | 6.33 | 25.86 | 25.96 |
| <i>SD</i> | 13.60 | 7.08 | 16.42 | 17.25 | 10.50 | 6.87 | 11.83 | 7.33 | 5.78 | 8.86 | 6.30 |
| <i>n</i> | 315 | 315 | 310 | 303 | 316 | 317 | 313 | 314 | 169 | 171 | 166 |

Note: (6) = sixth grade; (7) = seventh grade; (8) = eighth grade; (A) = adulthood, or 5-years post-college. * $p < .05$; ** $p < .001$ (2-tailed)

Table 2. Gender covariate comparisons for CLPM models.

| Model | χ^2 | CFI | RMSEA | SRMR |
|---|----------|-----|-------|------|
| 1. CLPM Stability Only Model (a) | 108.25 | .86 | .13 | .12 |
| 2. CLPM Stability Only Model (b) | 70.03 | .93 | .11 | .09 |
| 3. CLPM Stability Only Model (c) | 46.33 | .9 | .11 | .08 |
| Model a vs. Model b - χ^2 diff(2) = 38.21, $p < .01$ | | | | |
| Model b vs. Model c - χ^2 diff(4) = 23.71, $p < .01$ | | | | |
| 4. CLPM Peer Victimization-Driven Model (a) | 107.27 | .86 | .14 | .12 |
| 5. CLPM Peer Victimization-Driven Model (b) | 69.15 | .93 | .12 | .09 |
| 6. CLPM Peer Victimization-Driven Model (c) | 44.31 | .95 | .12 | .08 |
| Model a vs. Model b - χ^2 diff(2) = 38.12, $p < .01$ | | | | |
| Model b vs. Model c - χ^2 diff(4) = 24.84, $p < .01$ | | | | |
| 7. CLPM Depressive Symptoms-Driven Model (a) | 82.00 | .89 | .12 | .10 |
| 8. CLPM Depressive Symptoms-Driven Model (b) | 43.74 | .96 | .09 | .06 |
| 9. CLPM Depressive Symptoms-Driven Model (c) | 16.83 | .99 | .07 | .04 |
| Model a vs. Model b - χ^2 diff(2) = 38.26, $p < .01$ | | | | |
| Model b vs. Model c - χ^2 diff(4) = 26.92, $p < .01$ | | | | |
| 10. CLPM Full Transactional Model (a) | 80.58 | .89 | .13 | .10 |
| 11. CLPM Full Transactional Model (b) | 42.37 | .96 | .10 | .05 |
| 12. CLPM Full Transactional Model (c) | 15.40 | .99 | .08 | .03 |
| Model a vs. Model b - χ^2 diff(2) = 38.21, $p < .01$ | | | | |
| Model b vs. Model c - χ^2 diff(4) = 29.37, $p < .01$ | | | | |

Note: (a) = gender not included as a covariate; (b) = gender covaried on grade six peer victimization and depressive symptoms; (c) = gender covaried on peer victimization and depressive symptoms at all three middle school time points.

Table 3. Specified paths, estimates, and confidence intervals for the CLPM stability only model.

| Model/Paths | B(SE) | 95% CI |
|--|--------------|--------------|
| 1. CLPM Stability Only Model | | |
| Direct Paths | | |
| Peer victimization (6) → Peer victimization (7) | .42 (.05)* | [.33, .52] |
| Peer victimization (7) → Peer victimization (8) | .47 (.04)* | [.38, .55] |
| Depressive symptoms (6) → Depressive symptoms (7) | .64 (.04) * | [.57, .71] |
| Depressive symptoms (7) → Depressive symptoms (8) | .66 (.03) * | [.60, .73] |
| Gender → Peer victimization (6) | -.33 (.05) * | [-.43, -.24] |
| Gender → Peer victimization (7) | -.07 (.06) | [-.18, .04] |
| Gender → Peer victimization (8) | -.16 (.05) * | [-.26, -.06] |
| Gender → Depressive symptoms (6) | -.19 (.05) * | [-.29, -.08] |
| Gender → Depressive symptoms (7) | .04 (.05) | [-.05, .13] |
| Gender → Depressive symptoms (8) | .08 (.04) | [-.01, .17] |
| Covariances | | |
| Peer victimization (6) ← → Depressive symptoms (6) | .59 (.04) * | [.52, .67] |
| Peer victimization (7) ← → Depressive symptoms (7) | .33 (.05) * | [.23, .44] |
| Peer victimization (8) ← → Depressive symptoms (8) | .37 (.05) * | [.27, .47] |

Note: B = standardized path coefficient; SE = standard errors; CI = confidence interval; (6) = sixth grade; (7) = seventh grade; (8) = eighth grade; Gender: 1=male, 2=female; *p<.05.

Table 4. Specified paths, estimates, and confidence intervals for the CLPM peer victimization-driven model.

| Model/Paths | B(SE) | 95% CI |
|--|--------------|--------------|
| 2. Peer Victimization-Driven Model | | |
| Direct Paths | | |
| Peer victimization (6) → Peer victimization (7) | .44 (.05) * | [.34, .54] |
| Peer victimization (7) → Peer victimization (8) | .48 (.05) * | [.39, .57] |
| Depressive symptoms (6) → Depressive symptoms (7) | .59 (.05) * | [.50, .69] |
| Depressive symptoms (7) → Depressive symptoms (8) | .66 (.04) * | [.57, .73] |
| Gender → Peer victimization (6) | -.33 (.05) * | [-.43, -.23] |
| Gender → Peer victimization (7) | -.07 (.06) | [-.17, .04] |
| Gender → Peer victimization (8) | -.16 (.05) * | [-.26, -.06] |
| Gender → Depressive symptoms (6) | -.19 (.05) * | [-.29, -.08] |
| Gender → Depressive symptoms (7) | .06 (.05) | [-.03, .16] |
| Gender → Depressive symptoms (8) | .09 (.05) | [-.00, .18] |
| Cross-Lagged Paths | | |
| Peer victimization (6) → Depressive symptoms (7) | .08 (.06) | [-.04, .19] |
| Peer victimization (7) → Depressive symptoms (8) | .02 (.05) | [-.08, .12] |
| Covariances | | |
| Peer victimization (6) ← → Depressive symptoms (6) | .59 (.04) * | [.52, .66] |
| Peer victimization (7) ← → Depressive symptoms (7) | .33 (.05) * | [.23, .44] |
| Peer victimization (8) ← → Depressive symptoms (8) | .38 (.05) * | [.28, .48] |

Note: B = standardized path coefficient; SE = standard errors; CI = confidence interval; (6) = sixth grade; (7) = seventh grade; (8) = eighth grade; Gender: 1=male, 2=female; * $p < .05$.

Table 5. Specified paths, estimates, and confidence intervals for the CLPM depressive-symptoms-driven model.

| Model/Paths | B(SE) | 95% CI |
|--|--------------|--------------|
| 3. Depressive Symptoms-Driven Model | | |
| Direct Paths | | |
| Peer victimization (6) → Peer victimization (7) | .37 (.06) * | [.24, .49] |
| Peer victimization (7) → Peer victimization (8) | .35 (.05) * | [.25, .45] |
| Depressive symptoms (6) → Depressive symptoms (7) | .65 (.04) * | [.58, .72] |
| Depressive symptoms (7) → Depressive symptoms (8) | .71 (.03) * | [.65, .76] |
| Gender → Peer victimization (6) | -.33 (.05) * | [-.43, -.23] |
| Gender → Peer victimization (7) | -.08 (.06) | [-.19, .03] |
| Gender → Peer victimization (8) | -.16 (.05) * | [-.26, -.07] |
| Gender → Depressive symptoms (6) | -.18 (.05) * | [-.29, -.08] |
| Gender → Depressive symptoms (7) | .05 (.04) | [-.04, .14] |
| Gender → Depressive symptoms (8) | .09 (.04) | [.01, .17] |
| Cross-Lagged Paths | | |
| Depressive symptoms (6) → Peer victimization (7) | .09 (.06) | [-.03, .21] |
| Depressive symptoms (7) → Peer victimization (8) | .28 (.05) * | [.18, .38] |
| Covariances | | |
| Peer victimization (6) ← → Depressive symptoms (6) | .59 (.04) * | [.52, .66] |
| Peer victimization (7) ← → Depressive symptoms (7) | .32 (.05) * | [.22, .43] |
| Peer victimization (8) ← → Depressive symptoms (8) | .35 (.05) * | [.26, .46] |

Note: B = standardized path coefficient; SE = standard errors; CI = confidence interval; (6) = sixth grade; (7) = seventh grade; (8) = eighth grade; Gender: 1=male, 2=female; *p<.05.

Table 6. Specified paths, estimates, and confidence intervals for the CLPM full transactional model.

| Model/Paths | B(SE) | 95% CI |
|--|--------------|--------------|
| 4. Full Transactional Model | | |
| Direct Paths | | |
| Peer victimization (6) → Peer victimization (7) | .39 (.07) * | [.26, .52] |
| Peer victimization (7) → Peer victimization (8) | .34 (.05) * | [.23, .45] |
| Depressive symptoms (6) → Depressive symptoms (7) | .61 (.05) * | [.52, .71] |
| Depressive symptoms (7) → Depressive symptoms (8) | .72 (.04) * | [.65, .79] |
| Gender → Peer victimization (6) | -.33 (.05) * | [-.43, -.23] |
| Gender → Peer victimization (7) | -.07 (.06) | [-.18, .04] |
| Gender → Peer victimization (8) | -.17 (.05) * | [-.26, -.07] |
| Gender → Depressive symptoms (6) | -.18 (.05) * | [-.29, -.08] |
| Gender → Depressive symptoms (7) | .06 (.05) | [-.03, .16] |
| Gender → Depressive symptoms (8) | .08 (.04) | [-.01, .17] |
| Cross-Lagged Paths | | |
| Peer victimization (6) → Depressive symptoms (7) | .07 (.06) | [-.05, .18] |
| Peer victimization (7) → Depressive symptoms (8) | -.02 (.05) | [-.12, .07] |
| Depressive symptoms (6) → Peer victimization (7) | .08 (.06) | [-.05, .20] |
| Depressive symptoms (7) → Peer victimization (8) | .29 (.05) * | [.18, .39] |
| Covariances | | |
| Peer victimization (6) ← → Depressive symptoms (6) | .59 (.06) * | [.52, .66] |
| Peer victimization (7) ← → Depressive symptoms (7) | .32 (.05) * | [.21, .42] |
| Peer victimization (8) ← → Depressive symptoms (8) | .36 (.05) * | [.26, .46] |

Model 1 vs. Model 2: χ^2 diff(2) = 2.02, $p = .36$

Model 1 vs. Model 3: χ^2 diff(2) = 29.50, $p < .01$

Model 3 vs. Model 4: χ^2 diff(2) = 1.42, $p = .49$

Note: B = standardized path coefficient; SE = standard errors; CI = confidence interval; (6) = sixth grade; (7) = seventh grade; (8) = eighth grade; Gender: 1=male, 2=female; * $p < .05$.

Table 7. Specified paths, estimates, and confidence intervals for the Cross-Lagged Panel Model (CLPM) - Depressive Symptoms-Driven Model for Adult Outcomes.

| Model/Paths | B(SE) | 95% CI |
|---|--------------|--------------|
| 5. Depressive Symptoms-Driven Adult Outcomes Model | | |
| Direct Paths | | |
| Peer victimization (6) → Peer victimization (7) | .36 (.06) * | [.24, .49] |
| Peer victimization (7) → Peer victimization (8) | .37 (.05) * | [.27, .47] |
| Depressive symptoms (6) → Depressive symptoms (7) | .65 (.04) * | [.58, .72] |
| Depressive symptoms (7) → Depressive symptoms (8) | .70 (.03) * | [.65, .76] |
| Gender → Peer victimization (6) | -.33 (.05) * | [-.43, -.24] |
| Gender → Peer victimization (7) | -.08 (.06) | [-.19, .03] |
| Gender → Peer victimization (8) | -.17 (.05) * | [-.26, -.07] |
| Gender → Depressive symptoms (6) | -.19 (.05) * | [-.29, -.09] |
| Gender → Depressive symptoms (7) | .04 (.04) | [-.04, .13] |
| Gender → Depressive symptoms (8) | .08 (.04) * | [.01, .17] |
| Cross-Lagged Paths | | |
| Depressive symptoms (6) → Peer victimization (7) | .11 (.06) | [-.02, .23] |
| Depressive symptoms (7) → Peer victimization (8) | .26 (.05) * | [.16, .37] |
| Adult Outcomes | | |
| Depressive symptoms (8) → Substance use (A) | .04 (.10) | [-.16, .27] |
| Depressive symptoms (8) → Depressive symptoms (A) | .06 (.10) | [-.14, .26] |
| Depressive symptoms (8) → Satisfaction with life (A) | -.23 (.10) * | [-.42, -.04] |
| Peer victimization (8) → Substance use (A) | -.08 (.10) | [-.28, .12] |
| Peer victimization (8) → Depressive symptoms (A) | .08 (.10) | [-.12, .27] |
| Peer victimization (8) → Satisfaction with life (A) | -.09 (.10) | [-.28, .10] |
| Covariances | | |
| Peer victimization (6) ← → Depressive symptoms (6) | .61 (.04) * | [.53, .67] |
| Peer victimization (7) ← → Depressive symptoms (7) | .34 (.05) * | [.23, .44] |

| | | |
|---|--------------|-------------|
| Peer victimization (8) $\leftarrow \rightarrow$ Depressive symptoms (8) | .34 (.05) * | [.24, .45] |
| Substance use (A) $\leftarrow \rightarrow$ Depressive symptoms (A) | .16 (.08) * | [.01, .31] |
| Substance use (A) $\leftarrow \rightarrow$ Satisfaction with life (A) | -.15 (.08) | [-.30, .01] |
| Depressive symptoms (A) $\leftarrow \rightarrow$ Satisfaction with life (A) | -.43 (.07) * | [-.56, -.0] |

*Note: B = standardized path coefficient; SE = standard errors; CI = confidence interval; (6) = sixth grade; (7) = seventh grade; (8) = eighth grade; (A) = adulthood; Gender: 1=male, 2=female; *p<.05.*

APPENDIX B. FIGURES

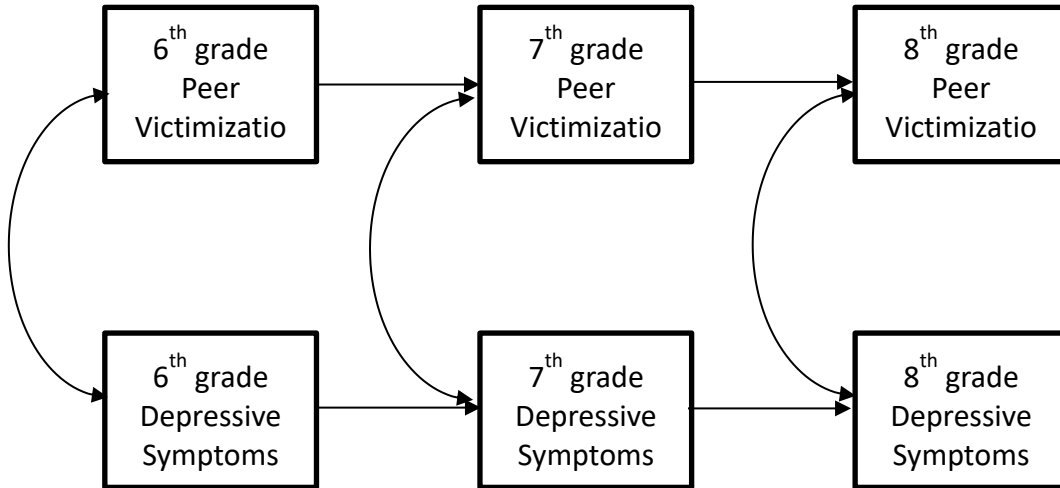


Figure 1. Cross-Lagged Panel Model (CLPM) – Stability Only Model.

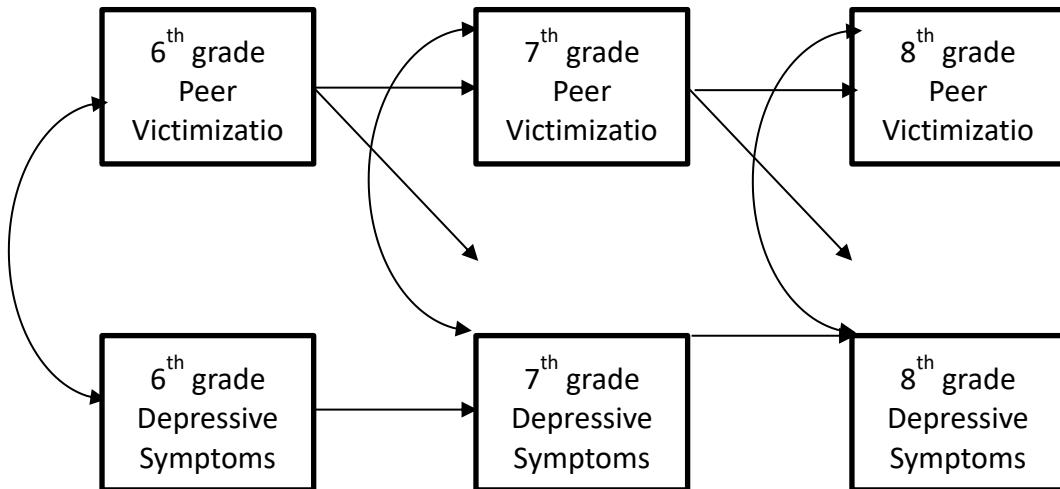


Figure 2. Cross-Lagged Panel Model (CLPM) - Peer Victimization-Driven Model.

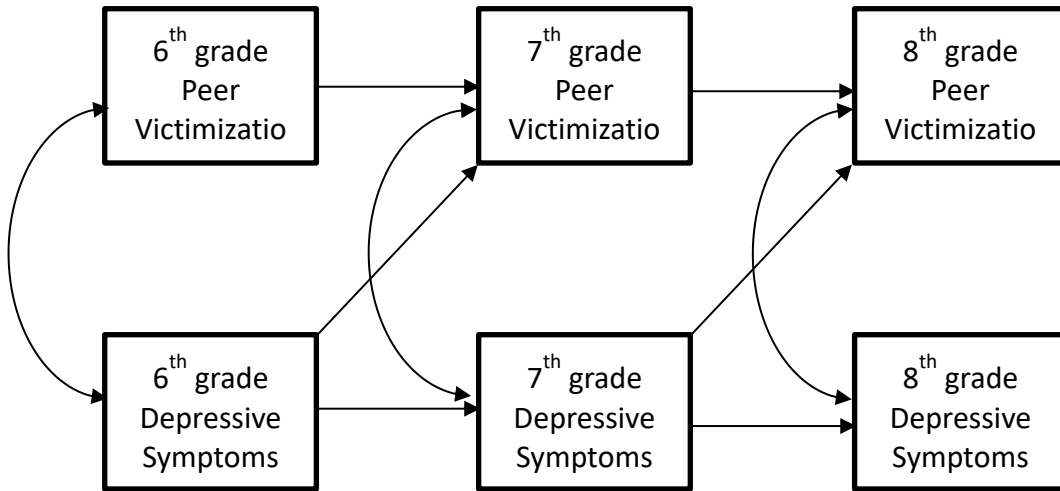


Figure 3. Cross-Lagged Panel Model (CLPM) - Depressive Symptoms-Driven Model.

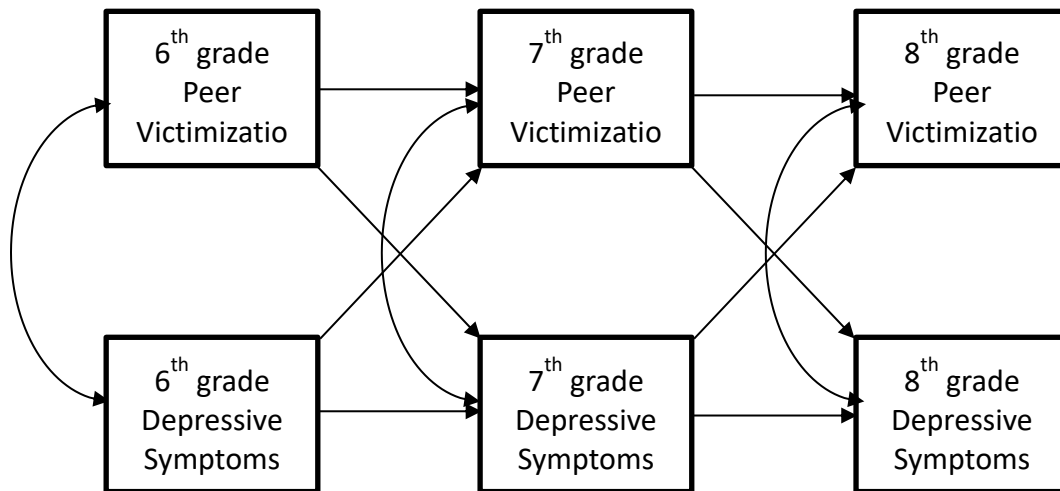


Figure 4. Cross-Lagged Panel Model (CLPM) - Full Transactional Model.

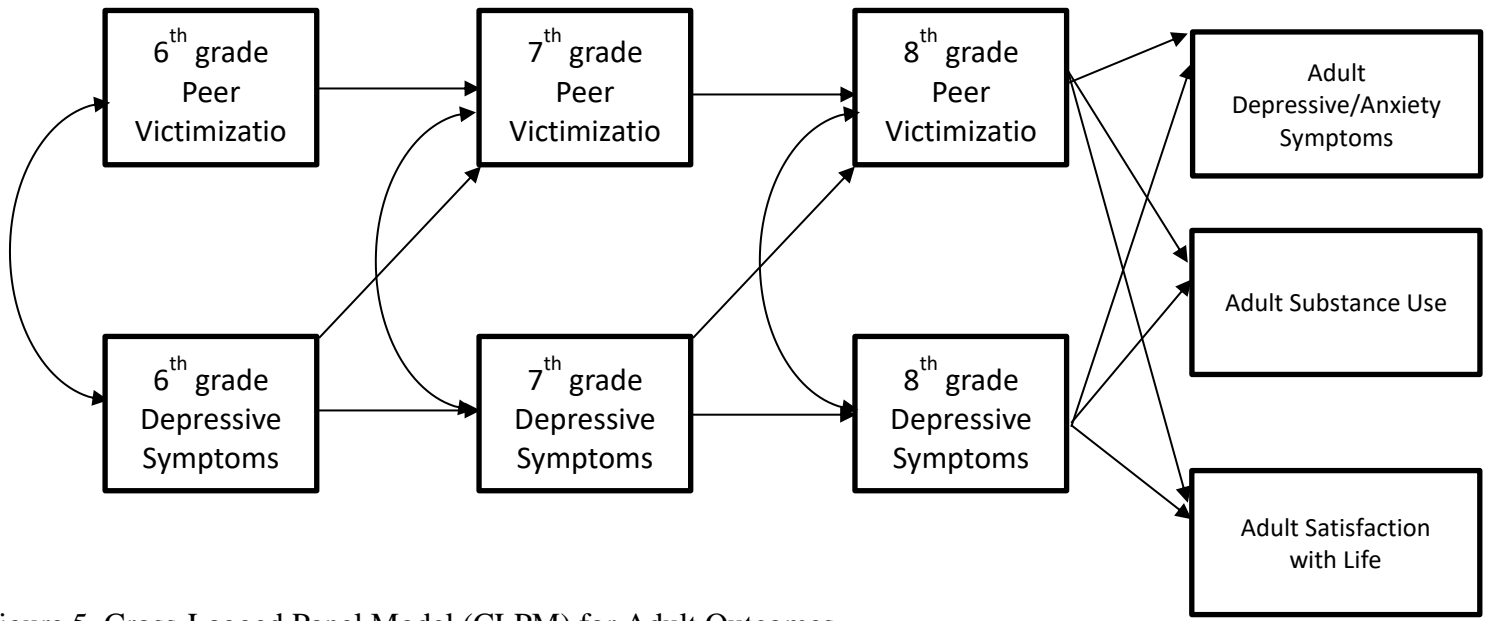


Figure 5. Cross-Lagged Panel Model (CLPM) for Adult Outcomes.

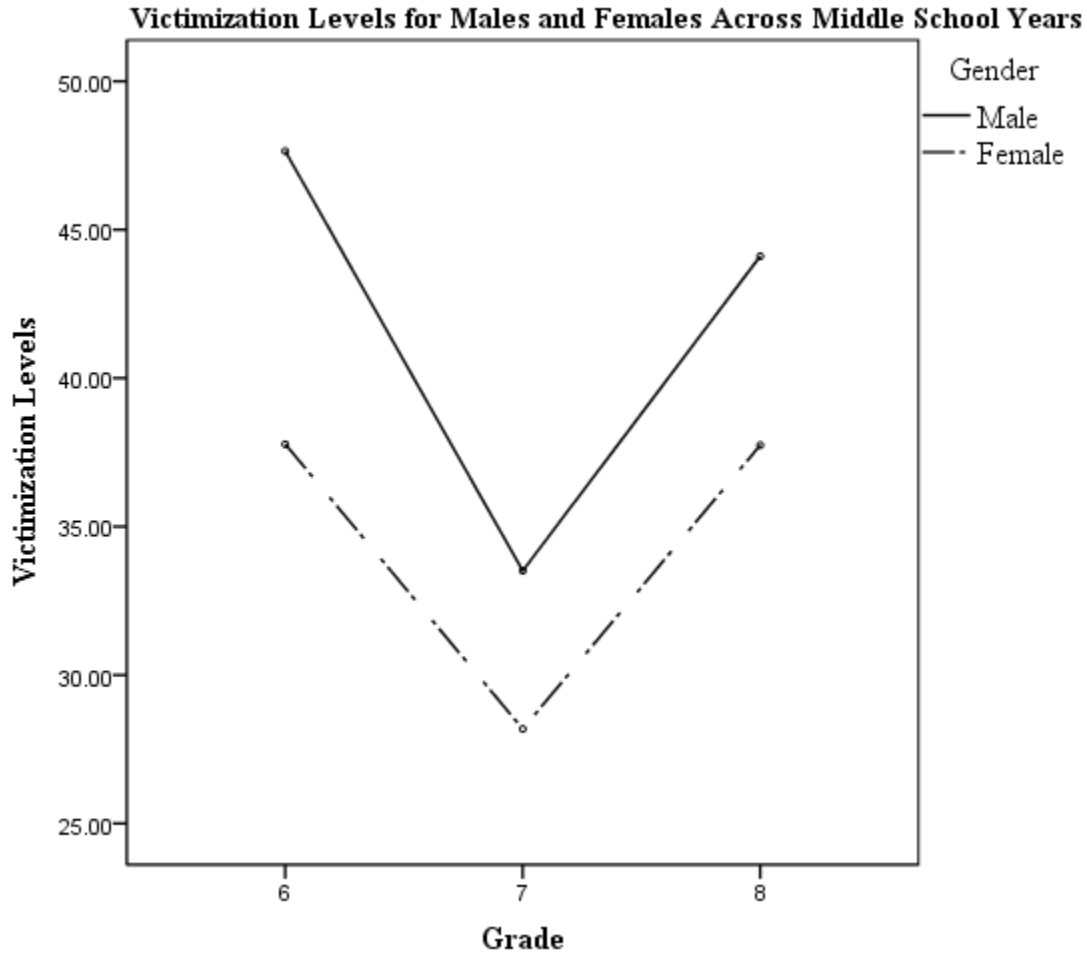


Figure 6. Victimization levels for males and females across middle school years.

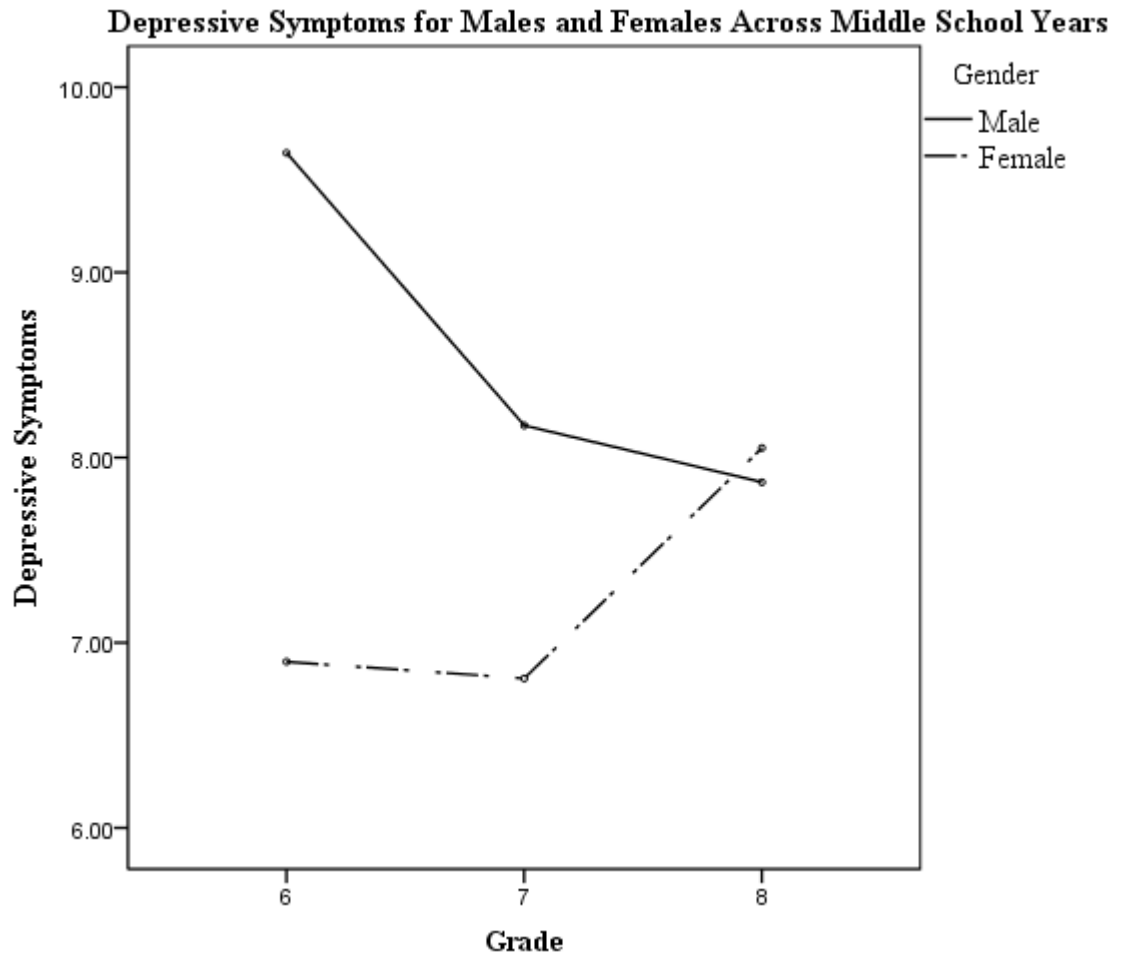


Figure 7. Depressive symptoms for males and females across middle school years.

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